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Protective Factors for Secondary Traumatic Stress in Residential Treatment Staff

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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

PROTECTIVE FACTORS FOR SECONDARY
TRAUMATIC STRESS IN RESIDENTIAL
TREATMENT STAFF

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

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This Dissertation by: Stacey Gagliano

Entitled: *Protective Factors for Secondary Traumatic Stress in Residential Treatment Staff*

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ABSTRACT

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This cross-sectional study examined the relationship between empathy, a problem-focused coping style, compassion satisfaction (CS), staff cohesion, and symptoms of secondary traumatic stress (STS) in residential treatment center (RTC) staff, while controlling for previous direct trauma exposure. A total of 44 participants were recruited from RTCs in a western state and included mental health care providers (clinical staff), direct-care staff, and educational staff. Participants completed a 62-question electronic survey that included several self-report measures evaluating each of the aforementioned variables, in addition to demographics. A hierarchical multiple regression analysis was performed to determine the degree to which these variables explain STS symptoms in RTC staff. A one-factor ANOVA was utilized to compare rates of STS between across occupational groups. Findings of correlational analyses indicated that higher levels of problem-focused coping skills were significantly associated with a greater sense of empathy. Moreover, the experience of direct trauma, empathy, problem-focused coping, CS, and staff cohesion significantly explained STS symptoms in RTC staff. These results suggest that particular individual and/or organizational factors may serve a protective function against STS and further research is warranted as this knowledge may benefit training programs and staff development opportunities across systems that serve traumatized youth.

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TABLE OF CONTENTS

CHAPTER

I. INTRODUCTION	1
Significance of the Problem	2
Statement of the Problem	11
Purpose Statement	12
Research Questions	13
Definition of Terms	13
Summary of Introduction	15
II. LITERATURE REVIEW	17
Placements and Systems: Residential Care	17
Youth in Residential Care	23
The Effects of Complex Trauma	25
The Important Role of Staff	31
Trauma Loop	34
Secondary Traumatic Stress	37
Risk and Protective Factors	41
History of Adversity and/or Trauma	41
Gender	44
Coping Styles	45
Empathy	48
Compassion Satisfaction	51
Work Environment	53
Current Study	54
III. METHODOLOGY	56
Participants and Setting	56
Instrumentation	59
The Empathy Assessment Index	60
The Professional Quality of Life Scale	61
Coping with Stress	62
Staff Cohesion	65

Demographic Characteristics	66
Research Design.....	67
Procedures	68
Data Analysis	70
Research Question One.....	72
Research Question Two	74
Research Question Three	77
IV. RESULTS	79
Descriptive Statistics.....	79
Dimension-Reduction and Analysis of Each Measure	80
Empathy Assessment Index	80
The Coping Orientation to Problems Experienced Inventory.....	81
Secondary Traumatic Stress from the Professional Quality of Life Scale	82
Compassion Satisfaction from the Professional Quality of Life Scale	83
The Texas Christian University Organizational Readiness for Change: Treatment Staff Version	83
Relationships between the Variables	84
Variance of Secondary Traumatic Stress Explained by Each of the Variables	85
Differences in Secondary Traumatic Stress Levels between Occupational Groups	86
Summary of Findings.....	87
V. DISCUSSION	89
Relationships between the Variables	89
Did Any of the Variables Explain Experiences of Secondary Traumatic Stress?.....	90
Did Occupational Role Impact Rates of Secondary Traumatic Stress?.....	91
Implications and Key Findings	92
Empathy	92
Are Empathy, Problem-Focused Coping, Compassion Satisfaction, or Staff Cohesion Protective?	93
Limitations	95
Future Directions	96
Conclusions	99
REFERENCES	101

APPENDIX

A. RECRUITMENT EMAILS	127
B. AUTHOR PERMISSION FOR USE OF THE EMPATHY ASSESSMENT INDEX.....	130
C. THE PROFESSIONAL QUALITY OF LIFE SCALE (ProQOL) Version 5 (2009)	132
D. AUTHOR PERMISSION FOR USE OF THE PROQOL 5	134
E. THE COPING ORIENTATION TO PROBLEMS EXPERIENCED INVENTORY (COPE)	137
F. ORGANIZATIONAL READINESS FOR CHANGE: TREATMENT STAFF VERSION (TCU ORC-S).....	139
G. DEMOGRAPHICS	141
H. INSTITUTIONAL REVIEW BOARD APPROVAL LETTERS	143
I. INFORMED CONSENT	146
J. DEBRIEFING FORM	149
K. LIST OF ACRONYMS	151

LIST OF TABLES

TABLE

3. 1: Sample Demographics	59
4. 1: Descriptive Statistics of Variables	79
4. 2: Kaiser's (1974) Evaluation of Levels of the Index of Factorial Simplicity	81
4. 3: Correlations between Variables	84
4. 4: Summary of Hierarchical Regression Analysis for Variables Predicting Secondary Traumatic Stress	86
4. 5: Descriptive Statistics of STS Ratings Amongst Each Occupational Group	87

LIST OF FIGURES

FIGURES

3. 1: Model of Variable Interaction and Impact on STS	68
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CHAPTER I

INTRODUCTION

Significant intrinsic reward is often associated with engagement in helping behavior. Many individuals experience significant intrinsic rewards by helping others and therefore, pursue careers that focus on caring for others. However, as Figley (1995) once said, “there is a cost to caring” (p. 1). In other words, there are potentially negative consequences to helping behavior, some of which has been the focus of recent research. Specifically, secondary traumatic stress (STS) has emerged as a topic of interest over the last few decades and has been studied among various occupational groups (e.g., Beck, 2011; Brady, 2017; Bride & Kintzle, 2011; Ewer, Teesson, Sannibale, Roche, & Mills, 2015; MacEachern, Jindal-Snape, & Jackson, 2011; Zerach, & Shalev, 2015).

Secondary traumatic stress results from indirect exposure to the trauma of another as a result of helping or wanting to help that individual. The symptoms closely resemble those that occur in individuals who have been directly exposed to a traumatic event (Bride, Robinson, Yegidis, & Figley, 2004; Cieslak et al., 2014). These symptoms include three key features: arousal, intrusive thoughts about the traumatic events of others and avoidance of any triggering events/material. Unfortunately, individuals suffering from higher levels of STS symptoms experience greater difficulty effectively carrying out the responsibilities of their job (Bride et al., 2004; Figley, 2002; Winstanley & Hales,

2015). Secondary traumatic stress can also contribute to a desire to change occupational fields all together (Bride, 2007; Figley, 2002).

Significance of the Problem

Due to a great deal of variability in how secondary traumatic stress has been defined and assessed, accurate prevalence rates have been difficult to determine. The National Child Traumatic Stress Network (2011) estimated prevalence rates to be as high as 26% among clinicians. Studies that investigated specific groups of clinicians with greater exposure to indirect trauma, comparatively (e.g. victim counselors), indicated even higher prevalence rates (National Child Traumatic Stress Network [NCTSN], 2011). Child welfare workers have been studied as one of the occupational groups that experience an increased rate of exposure to indirect trauma (Bride, 2007; Conrad & Kellar-Guenther, 2006; Salloum, Kondrat, Johnco, & Olson, 2015). Researchers have found prevalence rates of STS in child welfare workers ranging from 15% (Bride, 2007) to as high as 50% (Conrad & Kellar-Guenther, 2006; NCTSN, 2011). This range of prevalence rates may reflect the varying roles of child welfare workers across settings and differences in the amount of exposure to indirect trauma that is experienced across those roles. These clinicians work with youth who access a continuum of care; for example, some youth still live with their biological families or in foster care and many receive treatment in open settings (e.g., outpatient therapy), as well as youth who have been referred for more restrictive treatment.

The child welfare system is an umbrella term that refers to the continuum of services provided by each state or locality's public child welfare agency. Each state is required to meet federal regulations, but the primary responsibility of ensuring a safe,

stable, and permanent home for children falls to these state and local agencies. The U.S. Department of Health and Human Services is responsible for overseeing child welfare programs and policy on a federal level (Child Welfare Information Gateway, 2018). The number of youth who enter into the child welfare system has been on the rise since 2012 (United States Department of Health and Human Services, 2013, 2017), and many of these youth experience higher rates of mental illness and social, and emotional problems than their typical peers (Baker, Kurland, Curtis, Alexander, & Papa-Lentini, 2007; Conn, Szilagyi, Alpert-Gillis, Baldwin, & Jee, 2016). Furthermore, many of these youth have been exposed to complex trauma and have not experienced success in outpatient treatment (Frensch & Cameron, 2002; Trout et al., 2008). Residential treatment settings are designed to provide consistent care and treatment to youth and families. Although it is considered to be a more restrictive treatment option, it has been shown to improve long-term outcomes for youth such as psychological symptom reduction and signs of maintenance (Frensch & Cameron, 2002; Preyde et al., 2011; Van Dyk, Nelson, Epstein, & Thompson, 2014).

The majority of referrals to residential treatment centers (RTCs) come from the child welfare system (Sternberg et al., 2013). The youth referred to RTCs are often identified as “high-risk” (Duppong Hurley, Wheaton, Mason, Schnoes, & Epstein, 2014) and demonstrate significantly higher rates of impulsivity (Hodgdon et al., 2018), defiance, and aggression compared to youth who are not in the child welfare system (Briggs et al., 2012; Connor, Doerfler, Toscano, Volungis, & Steingard, 2004). These elevated risk factors and symptomology can often be related back to higher rates of early trauma exposure (Hodgdon et al., 2018; NCTSN, n.d.; Zelechowski et al., 2013). The

increased trauma exposure experienced by these children and adolescents also play a significant role in their interactions with staff and, in turn, expose staff to higher rates of indirect trauma (Van Gink et al., 2018).

Greater exposure to traumatic material is a significant risk factor for STS (Hensel, Ruiz, Finney, & Dewa, 2015; Newell & MacNeil, 2010; Turgoose, Glover, Barker, & Maddox, 2017). Yet, few researchers have studied secondary traumatic stress among residential treatment staff, who likely have experienced high rates of exposure to indirect trauma than mental health providers in other types of settings. Much of the existing research on STS has been conducted in settings where only the therapist has direct contact with the child (e.g., Bride, 2007; Conrad & Kellar-Guenther, 2006; Salloum et al., 2015). In residential treatment centers there are a variety of individuals who provide support for youth and are therefore exposed to high rates of traumatic material. The clinician's role in this setting is to help reduce trauma symptoms, which often involves working through many of those specific experiences with the clients (Ayotte, Lanctôt, & Tourigny, 2017). Given the association between higher caseloads of traumatized clients and the prevalence of STS (Hensel et al., 2015; Newell & MacNeil, 2010), clinicians in RTCs are likely at greater risk for STS.

Additionally, few authors have investigated prevalence rates of secondary traumatic stress exclusively in direct-care staff in residential treatment centers (Eastwood & Ecklund, 2008; Zerach, 2013). Zerach (2013) conducted a study in Israel, comparing STS rates in RTC staff to staff in a boarding school. He found that approximately 27% of direct care staff rated themselves within the "high" range for STS symptoms. The author advocated the importance of investigating STS rates among a wider range of occupational

groups within residential treatment centers. Direct-care staff closely resemble primary caregivers for these youth in that they are with them 24 hours a day providing support and daily structure (Smith, Colletta, & Bender, 2018). Educational staff are also exposed to high rates of indirect trauma in their daily interactions with the youth (Van Gink et al., 2018).

Scholars have developed a growing research base identifying the various risk factors associated with the development of secondary traumatic stress among clinicians and other caregivers (e.g., Akinsulure-Smith, Espinosa, Chu, & Hallock, 2018; Butler, Maguin, & Carello, 2018; Esaki & Larkin, 2013; Hensel et al., 2015; Meyers & Cornille, 2002). Far less research has sought to identify factors that protect against STS, particularly in this high-risk population. Over the years, interest has grown in identifying factors that improve outcomes and reduce the presence of psychopathology in individuals who have been exposed to trauma (Hoge, Austin, & Pollack, 2007). This concept of protective factors grew from resiliency theory. Masten (2014) defined the term resilience as “the capacity of a dynamic system to adapt successfully to disturbances that threaten system function, viability, or development” (p. 10). According to her conceptualization, resilience can be applied to individuals as well as systems, organizations, ecosystems, and far more. Moreover, resilience is not a fixed characteristic and it can fluctuate and change depending on the situation (Rutter, 1987). Additionally, a common misconception exists that examples of resilience are rare and are the result of extraordinary individual characteristics. On the contrary, resilience is in fact, quite common, and often the result of ordinary protective factors and resources (Masten, 2014).

The study of resilience has most commonly focused on the developmental outcomes of children and adolescents who have faced adversity. Within the last few decades, more attention has been paid to resilience throughout the lifespan. In their groundbreaking study of resilience, Werner and Smith (2001) followed approximately five hundred people, born in 1955 on the Hawaiian island of Kauai for decades. As they followed these individuals into adulthood, the authors focused on one's capacity for personal growth and change as we age. The results emphasized that, in addition to internal factors such as psychological disposition, individuals who availed themselves to opportunities for support within their social systems, demonstrated the possibility for recovery and successful adaptation later in life.

Throughout the years, many researchers have attempted to measure or quantify the process of resilience (e.g., Connor & Davidson, 2003; Fincham, Altes, Stein, & Seedat, 2009). Some have found evidence that resilience is negatively associated with posttraumatic stress disorder (Fincham et al., 2009; Streb, Häller, & Michael 2014). Similar inverse relationships have been reported between resiliency and STS. For example, Hiles Howard et al. (2015) were interested in child welfare workers' resilience and how they related to experiences of STS. The authors measured resiliency with the Resilience Questionnaire, which is a self-report measure that asks about early positive experiences that have been viewed as protective in previous research. Findings indicated that higher resiliency scores were associated with lower levels of STS in participants (Hiles Howard et al., 2015). The authors suggested that a "resilient person" possesses a set of inner strengths as well as external supports and resources that allow them to adapt and assimilate in the face of trauma exposure. Many researchers have investigated these

supports and resources, also known as protective factors. Protective factors are individual and environmental characteristics, supports, and/or resources that are related to a process of positive adaptation in the context of risk or adversity (Hoge et al., 2007; Masten & Monn, 2015; Zimmerman, 2013).

Protective factors are not simply the absence of vulnerabilities but rather the presence of positive environmental, individual, and social variables that operate in opposition to the effects of risk (Rutter, 1987; Zimmerman, 2013). Protective factors aid individuals in adapting to the stress and adversity they experience within their daily lives (Streb, Häller, & Michael, 2014). Both internal and external protective factors may contribute to this adaptive process and assist an individual in negotiating risk (Fincham et al., 2009; Werner & Smith, 2001; Zimmerman, 2013).

Self-care practices have been identified as one of the best methods of reducing risk of STS (Eastwood & Ecklund, 2008; NCTSN, 2011; Newell & MacNeil, 2010; Salloum et al., 2015; Yassen, 1995). Some of the literature has supported exercising regularly, getting enough sleep, and finding effective methods of relaxation outside of work, among other recommendations (NCTSN, 2011; Yassen, 1995). Engaging in these types of self-care behaviors likely would benefit any individual's general well-being, but there is little evidence to support the assertion that they bear any significant association with secondary traumatic stress.

Eastwood and Ecklund (2008) identified specific self-care activities that reduced compassion fatigue (a term that is sometimes used to refer to STS) in their study of residential treatment centers located in the United States. After investigating 29 self-care practices in direct-care staff, only two techniques were significantly associated with

lower levels of STS: social support outside of work and reading for pleasure. Salloum et al. (2015) were interested specifically in the impact of trauma-informed self-care in child welfare workers. Trauma-informed self-care refers to education about the effects of trauma and engaging in active methods of responding to it, such as seeking training opportunities, advocating for a balanced caseload, creating personal-work boundaries, seeking supervision, and more. Unfortunately, Salloum et al. (2015) found no meaningful relationship between these specific self-care practices and the occurrence of STS.

Use of particular coping strategies may be a more effective method of reducing risk of secondary traumatic stress. Werner and Smith (2001) found an internal locus of control to be associated with more successful adaptation in adulthood. The notion that one could control their own fate was positively associated with adaptation in their longitudinal study of risk and resilience. Moreover, researchers have found problem-focused coping, coping strategies that address the problem directly (as cited in Folkman, Lazarus, Gruen, & DeLongis, 1986), to be negatively associated with posttraumatic stress disorder (PTSD), when it was diagnosed as the result of direct trauma exposure (Hassija, Garvert, & Cloitre, 2015; Studley & Chung, 2015). The same relationship was found between problem-focused coping and other symptoms of psychological distress in a Japanese sample of participants (Morimoto, Shimada, & Tanaka, 2015). Not only does problem-focused coping help individuals, it can improve the functioning of families (Creech, Benzer, Liebsack, Proctor, & Taft, 2013). This study was completed with United States military personnel upon returning home from deployment. Symptoms of posttraumatic stress disorder were included in the model and results supported the claim that problem-focused coping acted as a protective factor both individually and

systemically (Creech et al., 2013). The authors suggested coping skills training that highlights problem-focused strategies may benefit individuals and families, post-deployment. Hassija et al. (2015) studied coping, PTSD, and social functioning in women with histories of early, direct trauma exposure. Findings indicated that problem-focused coping acted as a significant mediator in the relationship between one of the symptom clusters of PTSD and social functioning.

Anderson (2000) surveyed 131 child welfare workers/administrators employed by the state Department of Social Services and found that problem-focused coping was associated with a greater sense of personal accomplishment at work. Greater use of problem-focused coping was also correlated with lower levels of depersonalization. Depersonalization refers to a tendency to psychologically and/or physically distance oneself from the clients one serves. There was no relationship between this coping style and emotional exhaustion (Anderson, 2000). As was the case in this study, personal accomplishment, depersonalization, and emotional exhaustion are conceptualized as the components of burnout rather than STS. Yet, these results bear relevance to secondary traumatic stress as many researchers have suggested that untreated STS can often lead to burnout (e.g., Bell, Kulkarni, & Dalton, 2003; Conrad & Kellar-Guenther, 2006). In their work with caregivers in the United Arab Emirates, Hamid and Musa (2017) studied the relationship between coping strategies and secondary traumatic stress. The authors found that STS was negatively associated with problem-focused coping suggesting that problem-focused coping may act as a protective factor against STS (Hamid & Musa, 2017). It is important to note that this study was conducted outside of the United States, which could potentially limit its generalizability to the current sample population.

Another potential protective factor is empathy. It has been suggested that an increased sense of empathy is a risk factor for STS as it increases the likelihood that a helper will take the victim's trauma on as their own (Baum, 2016; Baum, Rahav, & Sharon, 2014; Figley, 1995). Yet, research that supports this relationship is limited. One recent study that assessed empathy among police officers who worked on sexual assault units found no support for this theory (Turgoose et al., 2017). Alternatively, Wagaman, Geiger, Shockley, and Segal (2015) suggested that empathy may serve in a protective role against secondary traumatic stress. Further investigation of this alternative viewpoint is essential. If empathy can serve a protective function against STS rather than act as a risk factor, it could bear significant implications for clinical training programs as well as staff training programs. Suggesting that staff be cautious about feeling empathetic toward their clients could have negative consequences for both staff and clients if it is, in fact, a protective factor against STS.

A third protective factor that has received a great deal of attention in the literature is compassion satisfaction (CS) or gaining a feeling of satisfaction from helping behavior. When considering the effects of direct trauma or adversity, Werner and Smith (2001) found that feeling a sense of purpose in life or having faith that life made sense, was positively associated with successful adaptation into adulthood. Similarly, a feeling of CS is associated with feeling purpose in one's occupation and daily life (Figley, 2002; Li, Early, Mahrer, Klaristenfeld, & Gold, 2014). The findings are somewhat mixed as to whether or not CS bears any association with STS. Although some studies have found no evidence of a correlation (e.g., Eastwood & Ecklund, 2008; Salloum et al., 2015), others have reported a negative correlation between CS and STS among members of various

occupational groups (e.g., Conrad & Kellar-Guenther, 2006; Hamid & Musa, 2017; Hinderer et al., 2014; Zerach, 2013). Also, results of one recent study found that higher rates of CS among pediatric nurses was associated with greater feelings of connection to and positive association with their workplace (Li et al., 2014).

Lastly, the effects of different organizational and workplace factors have also explored with several risk factors having been identified, but few protective factors. Some support has been found for the protective role of supportive coworkers among police officers (Bourke & Craun, 2014), domestic violence advocates (Slattery & Goodman, 2009), social workers (Newell & MacNeil, 2010), and pediatric nurses (Li et al., 2014). However, no studies of the effects of supportive coworkers on STS in RTC staff were found. Residential treatment center staff must rely heavily upon one another and therefore an investigation of this component of the work environment was warranted. Additionally, the functionality of RTCs rely on an organizational framework that promotes a multidisciplinary approach to serving youth. Schools also rely on this organizational structure where professionals, across disciplines, must work together to benefit students. A gap in the literature exists as to the effects of supportive coworkers, or staff cohesion, in a multidisciplinary setting. This information could affect job retention across settings and/or improve educational service delivery.

Statement of the Problem

Knowing the negative effect STS can have on service providers as well as the clients they serve (e.g., Bride, 2007; Bride et al., 2004; Figley, 2002; Winstanley & Hales, 2015), this topic warrants examination of factors that may protect an individual against those negative effects. Although risk factors have often been the focus of study

(e.g., Akinsulure-Smith et al., 2018; Butler et al., 2018; Esaki & Larkin, 2013; Hensel et al., 2015; Meyers & Cornille, 2002), protective factors have received significantly less attention. Much of the existing literature has focused on the use of generic self-care practices to help reduce or prevent STS (Eastwood & Ecklund, 2008; NCTSN, 2011; Newell & MacNeil, 2010; Salloum et al., 2015; Yassen, 1995). However, little to no evidence exists to support this recommendation.

Several individual and organizational factors that may act as protective factors against secondary traumatic stress have begun to gain attention among researchers. Specifically, problem-focused coping, empathy, compassion satisfaction, and staff cohesion have recently been studied in various occupational groups and settings. Although the results have been mixed and, in some cases, very limited, preliminary evidentiary support can be found for all four of these factors in their role as buffers or protective factors against STS. Considering the increased exposure to indirect trauma RTC staff encounter on a daily basis, it was essential to examine STS in this population. Moreover, much of the literature has confined participants to one occupational group at a time rather than investigating groups that work together within the same settings. Despite the fact that many settings provide care for traumatized youth, such as schools, hospitals, and RTCs, involve multidisciplinary teams that work together to support these youth, an investigation of this kind has been missing from the literature.

Purpose Statement

The purpose of this study was to investigate the relationship between select internal and external factors and experiences of secondary traumatic stress in residential treatment center staff. The factors investigated in the present study were empathy, coping

style, compassion satisfaction, and staff cohesion in the workplace. These variables were identified via review of previous research investigating resiliency, trauma, potential protective factors, and more. The present study aimed to control for risk factors that had been previously established in the literature. These risk factors included gender and prior exposure to direct trauma. Staff experiences of STS were also compared across occupational groups working within the RTCs.

Research Questions

To measure the effect of these factors on STS, a cross-sectional, survey-based research design was used. Participants self-reported ratings of problem-focused coping, empathy, CS, and staff cohesion were compared to their ratings of STS using a hierarchical multiple regression analysis while controlling for gender and experiences of direct trauma. The following research questions were addressed:

- Q1 Are empathy, problem-focused coping, compassion satisfaction, staff cohesion, gender and/or the experience of direct trauma related to one another?
- Q2 Does empathy, a problem-focused coping style, compassion satisfaction, and/or staff cohesion explain secondary traumatic stress symptoms in residential treatment center staff, when controlling for gender and the experience of direct trauma?
- Q3 Do members of diverse occupational groups within a residential treatment center (e.g., clinicians, educational staff, or direct-care staff) report significantly different rates of secondary traumatic stress?

Definition of Terms

Burnout: The gradual onset of hopelessness, emotional exhaustion, and an inability to carry out the demands of one's job effectively (Anderson, 2000; Stamm, 2010).

Compassion Fatigue: A combination of the symptoms of burnout and secondary traumatic stress (Stamm, 2010). This concept also relates to the individual's worldview (i.e. their perceptions and overall outlook or attitude) (Figley, 2002).

Compassion Satisfaction: Gaining a feeling of joy as a result of engaging in helping behavior toward another (Stamm, 2002).

Complex Trauma: Exposure to multiple traumatic events as well as the long-term repercussions of this exposure. Complex trauma often begins early in development as the result of an environment that does not provide adequate safety and/or comfort (National Child Traumatic Stress Network [NCTSN], n.d.).

Coping: The use of various behavioral and cognitive methods of handling a stressful situation, utilizing varying amounts of individual resources to counter the demands of the particular situation (Akinsulure-Smith et al., 2018).

Direct-care staff: Staff in residential facilities who closely resemble primary care-givers in that they are with clients 24 hours a day, providing support and daily structure (Smith, Colletta, et al., 2018).

Emotion-Focused Coping: Coping behaviors focused on regulating one's own emotions in light of the stressful event (as cited in Folkman et al., 1986).

Empathy: The concept of assessing the emotional state of another, taking their perspective, react to their experiences, and understanding their emotional experience. This concept also involves the ability to separate one's own feelings from that of the other person reacting to their experiences (Lietz et al., 2011; Segal, Gerdes, Lietz, Wagaman, & Geiger, 2017).

Problem-Focused Coping: Coping behaviors focused on addressing the problem directly (Folkman et al., 1986).

Resilience: The dynamic process of adaptation within a context of risk and adversity that results in better than anticipated outcomes (Masten, 2014; Masten & Monn, 2015; Werner & Smith, 2001).

Secondary Traumatic Stress: Negative symptoms, including arousal, intrusive thoughts, and/or avoidance of triggering events/material, that occur as the result of indirect exposure to the trauma of another. This indirect exposure to trauma often occurs as a result of helping or wanting to help that individual (Bride et al., 2004; Cieslak et al., 2014). Symptoms of STS closely resemble those that occur in individuals directly exposed to a traumatic event and who may have been diagnosed with PTSD (Bride et al., 2004; Cieslak et al., 2014). Other symptoms may include but are not limited to: difficulty sleeping; somatic complaints; anger; decreased feelings of self-efficacy; alterations in memory and/or perception; fear; guilt; and hopelessness (NCTSN, 2011).

Staff Cohesion: The degree to which staff feel they have the support of their coworkers and can relate to one another (Institute of Behavioral Research, 2004).

Vicarious Traumatization: Changes in a clinician's frame of reference and/or cognitive changes occurring as the result of engagement in the therapeutic process with a traumatized client (NCTSN, 2011).

Summary of Introduction

Altruism and helping behavior are often considered to be valued and admirable qualities. Many individuals gravitate toward a helping profession as a result of the

intrinsic reward gained from the act of helping others. However, negative consequences to helping behavior do exist and can be extremely detrimental to one's quality of life. Specifically, secondary traumatic stress has been identified as one such consequence and can result in difficulty carrying out the responsibilities of one's job (Bride et al., 2004; Figley, 2002; Winstanley & Hales, 2015) and/or result in occupational changes (Bride, 2007; Figley, 2002). In recent decades, STS has been studied in various settings and authors have found that greater exposure to traumatic material is a significant risk factor for STS (Hensel et al., 2015; Newell & MacNeil, 2010; Turgoose et al., 2017). Staff working in residential treatment centers experience high rates of exposure to indirect trauma as a result of the populations these facilities often serve.

The concept of resilience can be applied to individuals as well as systems and organizations (Masten, 2014). Over the years, interest has grown in identifying protective factors that can improve resiliency as well as overall outcomes for individuals facing adversity. The present study sought to further examine several potential protective factors and their relationship to secondary traumatic stress in this at-risk population of RTC staff. These factors included a problem-focused coping style, empathy, compassion satisfaction, and staff cohesion in the workplace, while controlling for previously identified risk factors including gender and previous direct trauma exposure. Secondary traumatic stress experiences across the occupational groups that work together in this multidisciplinary setting was also investigated.

CHAPTER II

LITERATURE REVIEW

Identifying factors that may protect individuals in helping professions against the negative effects of indirect trauma exposure could yield significant implications for practice in a number of different fields. In order to understand the potential implications of this research, it is helpful to consider the continuum of mental health services available to today's youth, characteristics of the youth that access the highest level of this care, as well as the role of the staff in these settings. The bidirectional relationships maintained between youth and staff that contribute to the development of secondary traumatic stress (STS) is explained. Lastly, an overview of the existing literature on risk and protective factors of STS is provided.

Placements and Systems: Residential Care

Mental health care for youth exists on a continuum. Typically, best practice is to provide services in the least restrictive environment, which may include outpatient services and community-based care, but many youth present with more severe needs that require more restrictive care options. Residential treatment centers are considered one of the most restrictive placement options, second only to hospitalization and juvenile detention, and a common reason youth are referred to these settings is their failure in other previous treatment options (Frensch & Cameron, 2002; Trout et al., 2008).

Emphasis on the least restrictive environment has been particularly salient in society since the deinstitutionalization movement, which formally began in the 1960s

when President Kennedy signed the Community Mental Health Centers Act (Murphy & Rigg, 2014). The move to release individuals with mental health disorders from hospital and institutional settings came in the wake of public outrage over compulsory administration of antipsychotics and controversial treatment procedures used in public psychiatric hospitals. This piece of legislature designated federal funds for the construction of community-based treatment facilities and programs for people with severe mental illness. It proposed the least restrictive environment was best and recommended that communities be involved in the care of these individuals (Murphy & Rigg, 2014). Insurance companies soon followed suit by refusing funding to facilities with larger numbers of beds and funding individuals for shorter periods of time to prevent long-term hospitalization (Davoli, 2003). Although well intentioned, the Community Mental Health Centers Act failed to acknowledge that the majority of individuals living in psychiatric hospitals at the time lacked any substantial support system (Grob, 2005) and were often left homeless or incarcerated upon their release from these hospitals (Talley & Coleman, 1992). Subsequently, policy changes have taken place and mental health care has come more into public view (Barry, Huskamp, & Goldman, 2010), with the concept of the least restrictive environment remaining central to current policy (Courtney & Hughes-Heuring, 2009).

Among the least restrictive care options are school and community-based mental health services, in-home therapy, and other types of outpatient services. More restrictive options on the continuum of services is a day-treatment or partial-hospitalization-program, where the youth can receive services throughout the day and return home at night. Next are out-of-home placement options, also known as residential care, such as a

group home, which typically consist of 6-10 youth who live with adults in a contained setting (Duppong Hurley et al., 2009). Included under the umbrella of residential care are institutional settings, which are considered to be more restrictive still. According to the U.S. Department of Health and Human Services, an institutional setting is defined as “a licensed or approved child care facility operated by a public or private agency and providing 24-hour care and/or treatment typically for 12 or more children who require separation from their own homes or a group living experience” (United States Department of Health and Human Services, 2015, p. 1). Institutional settings include child care institutions, residential treatment centers (RTCs), and other similar facilities. Inpatient psychiatric units and juvenile detention centers are considered to be the most restrictive settings on this continuum (Duppong Hurley et al., 2009).

Residential care for children dates back to the foundation of the United States and has existed on an international scale for even longer (Courtney & Hughes-Heuring, 2009). To provide a brief history of residential care for children in the United States, we must look back to the nation’s founding when dependent children were sent to poorhouses, where they were housed with adults, or were sold into indentured servitude. This practice continued for many years until the first orphanage opened its doors in Louisiana in 1727. Later, during the Industrial Revolution children began to be viewed as vulnerable and different from adults. These changes led to the emergence of many more religiously based and privately-owned orphanages as well as reformatories. However, many of the children in these settings were not truly “orphans,” rather, their parents were no longer able to care for them.

In 1855, the New York Children's Aid Society condemned institutional settings as instilling dependency in children and contributing to a lifetime of poverty (Courtney & Hughes-Heuring, 2009). The founder of the New York Children's Aid Society, Loring Brace, began sending dependent children to live with farm families in the Midwest, thereby creating the first organized foster system in the United States. In 1874, the foundation of the New York Society for the Prevention of Cruelty to Children quickly raised awareness about the abuse and neglect of children, which again, increased the population of children requiring out-of-home care. The number of institutional settings continued to fluctuate over the years until the mid 1900s. At this time, the field of social work had become more active, with an emphasis on preserving the family system, and advocacy groups had taken a similar stance, advocating for foster family placements over institutional care. By 1958, more children were in foster care families than in institutional settings and the deinstitutionalization movement continued to propel this change forward.

By 1980, the public view of foster family placement as superior to institutional placement became law (Courtney & Hughes-Heuring, 2009). Public Law 96-272, part of the Adoption Assistance and Child Welfare Act stated children must be placed in the "least restrictive and most family-like out-of-home care settings" (p. 182). Moreover, institutional settings adapted over time to meet a particular societal need. "Modern residential care is seen as a form of treatment, not simply a substitute living arrangement for dependent children" (Courtney & Hughes-Heuring, 2009, p. 183). Today, residential care caters to youth with the most severe symptomology and needs (Briggs et al., 2012; Courtney & Hughes-Heuring, 2009).

In keeping with the “home-like setting” required in law, residential treatment centers today often consist of small homes or cottages on a larger campus, in order to provide treatment for youth in more of a family or community environment (Ainsworth & Thoburn, 2014). Residential care incorporates a wide range of services for children and families including but not limited to: a safe structured and therapeutic environment (often referred to as a therapeutic milieu); individual, group and family therapy; psychiatric care; education (including special education); medication management; as well as coordination of outpatient services and family reunification when possible.

The most common reasons youth are placed in a residential treatment center include aggressive behavior, mental illness, and safety concerns (Sternberg et al., 2013). These three reasons surpassed all others, with the fourth most common reason being delinquency, followed by neglect, abuse, substance abuse, school problems, and lastly status offenses. Child welfare agencies have consistently been the primary referral and funding sources for residential treatment centers, by a significant margin, for over 20 years. These state and local child welfare agencies were responsible for 62% of referrals and 58% of funding in 2010 (Sternberg et al., 2013). Moreover, children in the child welfare system often require more intensive services than youth in the general population and display higher rates of behavioral and emotional difficulties (Kerker & Morrison Dore, 2006).

According to a report from the Centers for Disease Control and Prevention (Division of Human Development and Disabilities, 2016), between 13% and 20% of children ages 3-17 in the United States are living with a mental health diagnosis each year. Children in the child welfare system, however, experience even higher rates of

mental health diagnoses, with rates estimated between 40% and 80% (Baker et al., 2007; Conn et al., 2016). These children come from all types of homes, but socioeconomic disadvantage is a common risk factor (Maclean, Taylor, & O'Donnell, 2017). Other risk factors for entry into the child welfare system include mental health diagnoses in parents, lack of social supports, and domestic violence. Similarly, children's entry into care can result from many varying situations, with child neglect being most common, as well as substance misuse by parents and child abuse, including emotional, physical and sexual (Fernandez, 2013). When these factors are combined with the trauma of being removed from one's home and biological parents, these children often experience an increase in symptomology and negative behaviors. More information on the effects of this trauma is reviewed later in this chapter.

In 2016, 437,465 children were under the care of the child welfare system in the United States and that number has been rising since 2012 (United States Department of Health and Human Services, 2013, 2017). Moreover, despite foster care having been viewed as the preferred placement option for children in the child welfare system, the severity of emotional and behavioral problems often demonstrated by these youth can lead to placement breakdown (Fernandez, 2013; Fernandez & Barth, 2010; Khoo & Skoog, 2014). Frequent movement of children in the child welfare system is an area of concern, as this can lead to an even greater increase in externalizing behavior problems as well as a higher likelihood of negative outcomes for these youth. In addition, each placement change is likely to retraumatize youth (Fernandez, 2013; Fernandez & Barth, 2010).

Ultimately, youth who have psychological and behavioral problems that have not been successfully treated via outpatient services often face the additional challenge of placement breakdown (Bettmann & Jaspersen, 2009; Briggs et al., 2012; Fischer, Dölitzsch, Schmeck, Fegert, & Schmid, 2016). It is often determined by relevant parties (e.g., guardians, parents, insurance providers, outpatient clinicians) that these youth require a higher level of care and supervision. When such a decision is made, it often leads to a referral to an out-of-home placement setting such as an RTC or a group home (Frensch & Cameron, 2002; Trout et al., 2008). These types of placements have the resources and staff to provide treatment for youth with the most severe emotional and behavioral difficulties (Briggs et al., 2012; Courtney & Hughes-Heuring, 2009).

Youth in Residential Care

Although policy mandates for the least restrictive environment, many youth present with needs so severe they require more restrictive care options. In addition, a common reason youth are referred to residential treatment is the failure of other previous treatment options (Frensch & Cameron, 2002; Trout et al., 2008) or living arrangements (Duppong Hurley et al., 2014). Similar to many adults with severe mental illness, these youth often lack strong support systems and/or continuity of care (Sternberg et al., 2013). Youth entering residential care have lived in an average of 5.4 settings (including foster care, familial care, etc.) prior to admittance (Duppong Hurley et al., 2014). Additionally, youth referred to these settings experience a broad range of difficulties across multiple settings and are characterized as “high-risk.” Many youth pose a threat to themselves and others and display emotional dysregulation (Briggs et al., 2012; Trout et al., 2008). As residential settings provide 24-hour care in an out-of-home environment, they are

considered to be a restrictive treatment option (Frensch & Cameron, 2002; Trout et al., 2008).

The research has consistently shown youth admitted to residential care present with significant psychological, academic and behavioral risk (Briggs et al., 2012; Connor et al., 2004; Trout et al., 2008). These youth have higher prevalence rates of mental health diagnoses than the general population (Connor et al., 2004; Dale, Baker, Anastasio, & Purcell, 2007; Duppong Hurley et al., 2009; Trout et al., 2008), as well as higher rates of family problems and academic difficulties (Zelechowski et al., 2013). They also demonstrate higher rates of health problems, substance abuse, criminal activity, aggressive, oppositional, and defiant behaviors, compared to their typical peers (Briggs et al., 2012; Zelechowski et al., 2013). Increased irritability, impulsivity, anger and difficulties with attachment are also characteristic of youth in residential treatment settings (Zelechowski et al., 2013). Studies have indicated these youth are more likely than the general population to demonstrate externalizing behaviors at clinically significant rates.

Rates of suicide risk in youth in residential care are double the national average (Duppong Hurley et al., 2014). Youth characteristics associated with higher suicide risk indicate female clients were more likely to demonstrate suicidality than male clients (Duppong Hurley et al., 2014). In addition, youth identified as high suicide risk were more likely to display higher rates of substance abuse and were more likely to be prescribed psychotropic medication. Many of these youth are prescribed additional medication as well, as many of the youth in residential care possess physical health

problems that can also play a role in their mental health and well-being (Van Dyk et al., 2014).

Externalizing behaviors are often seen at clinically significant rates in this population of youth (Briggs et al., 2012; Connor et al., 2004) and often serve as a precursor to admission (Fernandez, 2013; Fernandez & Barth, 2010). Connor et al. (2004) assessed 397 youth admitted to a specific residential treatment center between 1994 and 2001. The Modified Overt Aggression Scale (MOAS) was used specifically to assess the frequency and severity of these youths' aggression. Results indicated 58% of the youth were classified as aggressive. A common underlying factor of externalizing behaviors, as well as all the other aforementioned characteristics, is childhood trauma (NCTSN, n.d.; Zelechoski et al., 2013).

The Effects of Complex Trauma

Direct trauma can be described as an emotional reaction, such as fear or helplessness, to a terrible event such as a natural or man-made disaster, threatened or actual physical assault, threatened or actual sexual violence, severe injury due to an accident, among many other experiences. These experiences can result in short-term and/or long-term symptoms that may vary in nature. Some of these symptoms may include hypervigilance, irritability, hostility, insomnia, and more (APA, 2019; May & Wisco, 2016). Complex trauma is a term used to describe exposure to multiple traumatic events as well as the long-term repercussions of this exposure (NCTSN, n.d.). Complex trauma often begins early in development as the result of an environment that does not provide adequate safety and/or comfort. This type of environment deprives the child of the opportunity to develop appropriate coping skills (including the ability to self-soothe),

sense of security, and other emotion regulation skills (NCTSN, n.d.). While it is true that experiences have the ability to shape and affect us at any age, those that occur early in life provide the framework for the way in which we view the world (Perry, 2009). The human brain is most receptive to its environment during these early years and therefore is simultaneously most affected by it.

Believing in the importance of these early experiences, Kaiser Permanente's Department of Preventative Medicine in San Diego, with collaboration from the Centers for Disease Control and Prevention, conducted a study in 1998, to better understand the relationship between early adverse life experiences and long-term health problems in adults (Felitti & Anda, 2010; Felitti et al., 1998). The authors believed that a correlation existed between adversity in childhood and negative physical health outcomes later in life. They created a survey inquiring about child abuse and other experiences they categorized as household dysfunction and called them Adverse Childhood Experiences (ACEs). While some items on the ACEs survey do include being the victim of physical or sexual abuse as a child, several of the other items in isolation would not typically be considered a traumatic event (e.g. parental divorce). Nevertheless, consistent with previous research on resilience in development, all items on the survey are associated with childhood adversity and would be considered risk factors. Parental divorce for example, a common risk factor, is often associated with prolonged periods of interparental conflict, financial stressors, and disruptions in schooling, housing, and more. Divorce is considered a risk factor for several problems in both childhood and adulthood (Masten, 2014). Moreover, ACEs have been used many times in the literature as a metric of negative early childhood experiences.

The National Survey of Children's Health used telephone methodology to survey approximately 100,000 children between the ages of 0-17 from all 50 states (Maternal and Child Health Bureau, 2016). This survey was led by the National Center for Health Statistics at the Centers for Disease Control and found that 21.7% of the youth surveyed had experienced two or more Adverse Childhood Experiences (ACEs). The National Survey of Children's Health did not include youth in residential care (Maternal and Child Health Bureau, 2016), who have even higher rates of trauma exposure (Briggs et al., 2012).

Briggs et al. (2012) utilized archival data of 11,076 children/adolescents from the National Child Traumatic Stress Network (NCTSN) to analyze differences in trauma exposure between populations as well as the resulting functional impairments and treatment outcomes. The authors found that 92% of youth in residential care reported exposure to multiple traumatic events with a mean of 5.8 exposures, versus 77%, with a mean of 3.6 exposures in non-residential youth. Similar to the findings of the original ACEs study, the authors found a dose-response relationship between the number of trauma exposures and functional impairment in a number of psychosocial domains. Other such studies have found similar rates of repeated trauma in youth in residential care (Tyler, Patwardan, Ringle, Chmelka, & Mason, 2019; Zelechoski et al., 2013).

Similar studies conducted at a select facility or agency reported differing results than those who utilized data from the NCTSN. Results indicated approximately 30% of the youth reported exposure to repeated traumatic events in the first study (Fischer et al., 2016) and 47% in the second (Harr, Horn-Johnson, Williams, Jones, & Riley, 2013). However, Fischer et al. (2016) found that 80.3% of the youth reported exposure to at least

one traumatic event. The youth who reported higher rates of trauma exposure also reported increased internalizing and externalizing symptoms compared to those who had been exposed to one traumatic event.

The majority of youth who enter into residential care come from the child welfare system and were removed from their homes and their families for a number of reasons, all of which are likely to compound any existing feelings of instability. These experiences of instability in development often result in maladaptive attachment patterns. Bowlby suggested infant attachment patterns directly influence that child's ability to cope with stress (as cited in Schore, 2001). Many theorists have suggested secure attachment is the child's primary defense against trauma. Caregivers act as the infant's primary source of stress regulation by providing a sense of safety and security (NCTSN, n.d.; Schore, 2001).

Moreover, abusive and/or neglectful parenting can lead to maladaptive attachment patterns (e.g., disorganized/disoriented attachment) and alter the development of the child's stress response system (Schore, 2001). The neurobiological stress response is a survival mechanism inherent in all people; however, chronic and/or frequent activation of this stress response can fundamentally alter brain development (Carrion & Wong, 2012). Research using MRIs and fMRIs have demonstrated that these early traumatic experiences can result in altered development of the limbic system, which is responsible for emotion regulation, as well as the prefrontal cortex, which is responsible for cognitive control, selective attention, goal-directed behavior, associating stimuli with rewards, and inhibition (Carrion & Wong, 2012; Schore, 2001). These traumatic experiences can also

result in over activation of the autonomic nervous system—this phenomenon is referred to as hyperarousal (Schoe, 2001).

This maladaptive experience of hyperarousal may lead to reactive and proactive aggression (Ford, Chapman, Connor, & Cruise, 2012). Ford et al. (2012) defined reactive aggression as behavior that demonstrates an attempt to cope or to protect others.

Proactive aggression, on the other hand, is behavior that is intended to harm or control others. In addition, some youth may demonstrate aggression proactively in an attempt to defend themselves due to a history of complex trauma. These youth often perceive situations as stressful and even dangerous, which at times can be adaptive given their history of trauma (NCTSN, n.d.). This response can become problematic and violate social norms in situations that are not dangerous. The alterations in brain development that result from early exposure to trauma therefore often lead to an increase in aggression/anger, impulsivity, and reactivity while simultaneously decreasing the youth's capacity to engage in effective problem-solving.

Additionally, complex trauma has been linked to an increase in risk-taking behaviors such as involvement in criminal activity, substance use, suicidality, non-suicidal self-injurious behavior, and more (NCTSN, n.d.; Zelechowski et al., 2013). Dissociative symptoms (the experience of separating body from mind, identity, and memory) during periods of intense stress are also commonly seen. Some youth may experience flashbacks or re-experience traumatic events where images and/or memories intrude into their mind uncontrollably. Withdrawal is also a common behavioral pattern among traumatized youth.

As noted, youth with early trauma exposure experience atypical development of the stress response system of the brain (Hodgdon et al., 2018; Schore, 2001). In their work investigating the link between trauma exposure and executive functioning in youth in residential treatment, Hodgdon et al. (2018) found that children with early trauma exposure struggled with executive functioning deficits in areas such as planning, problem-solving, inhibition, working memory, and cognitive flexibility. Hodgdon et al. (2018) suggested that the stress response system gains priority in development, as a survival mechanism, the development of other higher-order cognitive functions (such as executive functioning) may be disrupted. These deficits have been shown to last into adulthood (Lu et al., 2017). In addition, deficiencies in executive functioning increase the likelihood of externalizing behaviors including extreme reactivity, risk-taking behaviors, impulsivity, aggression, and delinquency (Hodgdon et al., 2018). Results of Hodgdon et al.'s (2018) research indicated direct relationships between trauma exposure, psychopathology, and increased externalizing and internalizing behaviors. Executive functioning was found to be a mediator, indicating that trauma exposure can result in executive functioning deficits, which can then increase the externalizing behaviors and psychological symptoms.

Ultimately, as a result of this developmental trajectory, many of these youth are likely to react with verbal and/or physical aggression toward others. They tend to have poor self-regulation and can become quickly overwhelmed and respond out of frustration and/or stress. However, the reactions of those around them, which occur both prior to and following any problematic behavior, have a large effect on these behaviors (Dean, Gibbon, McDermott, Davidson, & Scott, 2010; Van Gink et al., 2018). In other words,

the actions and reactions of staff in residential care play a significant role in creating positive developmental outcomes for these youth (Ahrens et al., 2011; Jones & Deutsch, 2011).

The Important Role of Staff

Staff develop relationships with the youth they work with in residential care. Stable and supportive relationships formed with non-parental adults have the potential to improve outcomes for these youth (Ahrens et al., 2011). The stability of the relationship also had a significant impact on outcomes. An extensive body of research exists surrounding mentorship models and linking the youth-mentor relationship to positive youth outcomes with regard to self-concept, problem-solving skills, social and emotional functioning, and academic achievement (Rhodes, Spencer, Keller, Liang, & Noam, 2006). More broadly still, the relationships that adolescents form within the natural contexts of their lives (e.g., school, home, community) with non-parental adults can improve overall psychosocial functioning in areas of academics, behavior, and emotional well-being (Sterrett, Jones, McKee, & Kincaid, 2011). Hurd, Stoddard, Bauermeister, and Zimmerman (2014) also found that having a strong relationship with a non-parental adult in a natural context was positively correlated with increased coping skills and ability to find meaning in life.

Within residential care, youth interact with a variety of staff members on a daily basis. Unfortunately, these non-parental adults may not be as consistent as those experienced in natural contexts. Connor et al. (2003) investigated staff turnover at the at the Devereux Center in Massachusetts, a not-for-profit residential treatment center for youth with high levels of emotional needs. The authors found staff turnover rates to be as

high as 46% within a 3.5-year timeline. Direct care workers, teachers, and housekeeping staff demonstrated the highest rates of turnover compared to other occupational groups (Connor et al., 2003). The direct care staff role most closely resembles that of a primary caregiver (Smith, Colletta, et al., 2018). Direct care staff are responsible for providing daily structure for the client, providing safety and security, supervision, emotional support, discipline, as well as managing any crises that may occur with the youth (Seti, 2008; Smith, Colletta, et al., 2018).

Moreover, a typical work shift may include engaging in recreational activities, monitoring/aiding with homework, and sharing meals with the youth. When crises occur, crisis management involves the use of verbal de-escalation techniques and often physical restraint (Smith, Colletta, et al., 2018). Staff are required to participate in a number of specialized trainings to provide them with these skills among many others before they begin working with the youth (Lakin, Leon, & Miller, 2008). Residential treatment centers and other similar residential placements rarely require more than a high school diploma for direct care staff positions. However, studies have indicated level of education has little to no effect on rate of staff turnover (Connor et al., 2003; Lakin et al., 2008).

Overall, direct care staff are part of the natural context of the lives of these youth. The relationships formed between the youth and these non-parental adults play an important role in their success and treatment outcomes (Harder, Knorth, & Kalverboer, 2013, 2017; Smith, Colletta, et al., 2018). As a result of the repeated need for crisis management as well as the increased amount of time they spend with the youth, these staff are often most likely to be subject to physical violence and emotional abuse (Smith, Colletta, et al., 2018; Winstanley & Hales, 2008). The effects of this violence and

repeated exposure to the traumatic narratives of these youth can lead to long-lasting physical and psychological symptoms in staff (Smith, Colletta, et al., 2018).

Two studies conducted in the Netherlands analyzed the relationships between youth and their direct care staff and teachers (Harder et al., 2013, 2017). Results from the first study indicated adolescents tended to view teachers and direct care staff as secure attachment figures but found that this attachment was not isolated to a specific staff member (Harder et al., 2013). Moreover, they found that the youth and direct care staff viewed their relationship similarly while the youth and teachers had differing perspectives on their relationships. Youth/direct care staff viewed their relationships as more affective and secure when compared to teacher/youth relationships. The second study interviewed a small sample of youth, their parents, and staff in residential care and found that both parents and youth believed the treatment environment played the largest role in their outcomes (Harder et al., 2017). The youth noted that direct care staff were available to help them but reported being reticent to ask for help. They also reported that empathy and availability were the most important qualities in direct care staff as well as an ability to balance rules and freedom. Similar results have been found in adults with intellectual disabilities who live in residential care where interpersonal skills such as a sense of honesty, caring, trustworthiness, kindness, and ability to interact with others were highly valued by clients (Clarkson, Murphy, Coldwell, & Dawson, 2009; Dodevska & Vassos, 2013).

Similarly, when considering the clinician-client relationship, Bowlby suggested the client-therapist relationship can provide a “secure-base” for the client within the attachment theory framework (as cited in Harder et al., 2013). The secure-base allows the

client to draw upon a sense of trust, support, and encouragement in order to explore past traumatic experiences. Ayotte et al. (2017) were interested in the effect of the clinician-client relationship on long-term symptom reduction in female youth who had exited residential treatment. The authors studied the working alliance between clients and clinicians; or the emotional connection characterized by mutual respect, trust, and co-construction of treatment. The young women completed self-report measures regarding their trauma symptoms two weeks after entry to residential treatment. They completed a self-report questionnaire regarding their perception of their working alliance three months after entry, and they completed another self-report measure of trauma symptoms four years after entry. Results indicated that the stronger the working alliance, the fewer trauma symptoms were reported post-treatment. Stronger working alliances bore a significant negative association with symptoms of insecure attachment, anger, tension reduction behavior, sexual disturbance, and intrusive experiences (Ayotte et al., 2017).

The importance of the relationships youth share with staff in residential care is evident. The clinicians, direct care staff, and teachers in residential care settings come from a variety of backgrounds, each with their own personal conflicts and aspects of daily life to manage. Throughout the day and night in residential care, these professionals are faced with dozens of opportunities to model appropriate interactions with and reactions to youth as they encourage them to cope with daily challenges in new and different ways (Van Dam et al., 2011).

Trauma Loop

As we further consider the important role of staff, some attention must be paid to their daily interactions with the youth. For teachers, paraprofessionals and direct care

staff in particular, they often experience the same tests of patience and will that a caregiver or parent might experience (Van Gink et al., 2018). These individuals spend the most time with the youth and take on similar roles to typical caregivers (Smith, Colletta, et al., 2018), this also subjects them to the potential loss of self-control and displays of emotional dysregulation, which many caregivers experience when dealing with an oppositional child (Van Gink et al., 2018).

Considering the immense amount of time staff and clients spend with one another in residential treatment centers, Fraser, Archambault, and Parent, (2016) were interested in the micro-interactions that occur between these groups during client displays of opposition and/or aggression. During moments such as these, the staff will often have to intervene. These interventions often include rule reminders, conversation with the client, escorting the client to a different room, isolation, or restraint, among other strategies. In reviewing records of these interventions, the authors coded client behaviors and the intervention strategies used by staff, in order to analyze these interaction patterns. They sought to determine whether particular interventions would increase the odds of client aggression/opposition and also whether the behavior of the client had any association with the intervention selected by staff (Fraser et al., 2016). The findings indicate that use of particular strategies over others (i.e. reminding youth of the rules or physical restraint) will increase the likelihood of youth aggression. Ignoring the behavior most significantly decreased the odds of both opposition and aggression. Talking to the youth increased the odds of oppositional behaviors but less than all other interventions, except for ignoring. Interestingly, talking to the client was the least likely intervention to be used in the presence of oppositional behavior. Physical interventions such as using one's body as a

barrier, isolation, or restraint were most commonly selected for aggressive behaviors.

Reminding the client of the rules was also one of the most commonly selected intervention methods for both behaviors (Fraser et al., 2016). In summation, the behaviors of the staff may be contributing to increased opposition and aggression in the youth.

In further consideration of the effects of these interactions, social workers in RTCs in the United Kingdom, who reported incurring higher levels of physical aggression, also demonstrated higher levels of emotional exhaustion and depersonalization (Winstanley & Hales, 2015). Depersonalization refers to a tendency to psychologically and/or physically distance oneself from another, this can often be interpreted as seeming uncaring and/or unempathetic. The authors suggest these phenomena create a cycle where the youth act aggressively, the staff become more emotionally exhausted and distant, the youth perceive the staff as uncaring and ultimately, the staff member becomes a target for revictimization (Winstanley & Hales, 2015). This pattern of aggression, elevated emotional risk, and revictimization can be viewed as a trauma loop.

Moreover, according to guidelines from both the U.S. Department of Health and Human Services (Child Welfare Information Gateway, 2015) and the Association of Children's Residential Centers (2010) best practice involves training staff to view client behavior through a trauma informed lens. Staff are trained to "presume that every person in the treatment setting has likely been exposed to abuse, neglect, persistently overwhelming stress or other traumatic experiences" (Association of Children's Residential Centers, 2010, p. 2). Additionally, given the influence of early trauma on

neurological development, it is clear that the traumatic experiences these youth have faced affect all aspects of their lives and daily routine. This in turn exposes the staff who work with these youth to a significant amount of stress as well.

Secondary Traumatic Stress

As residential treatment center staff interact with youth, they witness the effects of their trauma on a daily basis. Figley (1995) notably opened his book, by stating, “there is a cost to caring” (p. 1). Around the same time posttraumatic stress disorder (PTSD) was added to the third edition of the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders* in 1980, the psychological community began to recognize the secondary effects of being in a helping position (Figley, 2002). Since that time, these secondary effects have been labeled with several different terms, most commonly, compassion fatigue and secondary traumatic stress (STS). While the National Child Traumatic Stress Network (2011) refers to compassion fatigue and STS as interchangeable terms, usage of these terms has varied significantly across the literature and has been conceptualized differently for measurement purposes.

Stamm (2010) developed the Professional Quality of Life Scale (ProQOL), which assesses the positive and negative effects of working with those who have experienced trauma. It is the most commonly used measure for assessing working environments where staff are exposed to indirect trauma through helping behavior. Within her scale, Stamm (2010) broke compassion fatigue into two components: secondary traumatic stress and burnout. Burnout is defined as the gradual onset of hopelessness, exhaustion, and an inability to carry out the demands of one’s job effectively. Within Stamm’s (2010) framework, STS refers the onset of negative symptoms, including arousal, intrusive

thoughts, and/or avoidance of triggering events/material, as the result of indirect exposure to the trauma of another. This indirect exposure to trauma occurs as a result of helping or wanting to help that individual (Stamm, 2010). Specifically, the term STS is often applied to unique occupational groups that are exposed to trauma indirectly through their work (Bride et al., 2004; Cieslak et al., 2014; Slattery & Goodman, 2009; Stamm, 2009). The term “compassion fatigue” will continue to appear as these two concepts are highly intertwined throughout the literature. Use of this term will refer to the combination of secondary traumatic stress and burnout as it has been defined by Stamm (2010).

Secondary traumatic stress symptoms parallel PTSD in that symptoms of STS closely resemble those that occur in individuals directly exposed to a traumatic event (Bride et al., 2004; Cieslak et al., 2014). For example, Berah, Jones, and Valent found that those who assisted on a disaster outreach team began to demonstrate many of the symptoms associated with PTSD, even though they did not directly experience the disaster (as cited in Figley, 2002). Aside from the three key STS symptoms of arousal, intrusive, and avoidance of triggers (Bride et al., 2004; Cieslak et al., 2014), other symptoms may include but are not limited to: difficulty sleeping; somatic complaints; anger; decreased feelings of self-efficacy; alterations in memory and/or perception; fear; guilt; and hopelessness (NCTSN, 2011).

Secondary traumatic stress does not hold its own place in the fifth edition of the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5; 2013). However, the most recent version of the DSM included changes to PTSD criteria, which outlines the ways one could be exposed to trauma, to include indirect exposure, and provides the example of “learning about a violent and/or

accidental death, serious injury, suicide, etc. affecting a close friend or family member” (p. 271) as a possible type of traumatic event. Moreover, “experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g....police officers repeatedly exposed to details of child abuse)” (p. 271) would also be considered a qualifying event.

As posttraumatic stress disorder and secondary traumatic stress are not distinct from one another in the DSM-5, it is difficult to determine specific prevalence rates for STS. However, the Secondary Traumatic Stress Committee of the National Child Traumatic Stress Network (2011) estimated that between 6% and 26% of clinicians working with traumatized youth were at high risk for secondary traumatic stress. In addition, the committee suggested up to 50% of clinicians working in the child welfare system were at high risk (NCTSN, 2011). More recently, survey research evaluating STS in a sample of over 1,000 masters-level, clinical social workers found prevalence rates of approximately 15% (Lee, Gottfried, & Bride, 2018). This prevalence rate was much lower than those estimated in previous research for more specific populations. For example, Choi (2011) investigated the prevalence of STS in social workers who specifically worked with survivors of family and/or sexual violence and found that approximately 30% of the sample reported secondary traumatic stress symptoms in the moderate to severe range.

Researchers have begun to identify educators as another high-risk group for developing STS (Van Bergeijk & Sarmiento, 2006), especially those who work with youth from high risk backgrounds. More specifically, Smith Hatcher, Bride, Oh, Moultrie King, and Franklin Catrett (2011) found that 39% of a sample of educators in the juvenile

justice system reported experiencing all three key symptoms of STS. Moreover, 81% reported experiencing at least one of the three key symptoms (Smith Hatcher et al., 2011). Still research on the prevalence of STS in populations of educators is limited.

Eastwood and Ecklund (2008) were interested in identifying self-care practices and demographics that were correlated with compassion fatigue in residential treatment center direct-care staff from two facilities in California. The authors utilized the third edition of the Professional Quality of Life Scale (ProQOL-R III), the current version at that time, which considered compassion fatigue and secondary traumatic stress to be interchangeable terms (Stamm, 2005). The authors found 26% of the sample fell within the high range on the compassion fatigue scale. Similarly, Zerach (2013) investigated compassion fatigue in direct care staff in 24 residential treatment centers in Israel. The authors broke compassion fatigue into STS and burnout in accordance with Stamm's (2010) model and found approximately 27% of direct care staff rated themselves above the 75th percentile for STS symptoms, placing them within the "high" range (Zerach, 2013). Comparable to literature focused on educators, available research on the prevalence rates of STS in RTC direct-care staff is limited in quantity and scope.

The prevalence rates and effects of secondary traumatic stress have been studied with regard to many other occupational groups including but not limited to nurses (Beck, 2011; Zerach, & Shalev, 2015), police investigators (Brady, 2017; MacEachern et al., 2011) and substance abuse workers (Bride & Kintzle, 2011; Ewer et al., 2015). Figley (2002) conceptualizes secondary traumatic stress symptoms as both a set of maladaptive responses to stress and also a set of survival strategies evoked in the helper as a subconscious attempt to understand and relate to the victim. Understanding more about

the prevalence and/or effects of STS is essential not only to support the individuals in these helper roles but also to support the clients they serve. Individuals suffering from higher levels of STS symptoms also experience greater difficulty providing effective treatment for their clients (Bride et al., 2004; Figley, 2002; Winstanley & Hales, 2015).

Risk and Protective Factors

History of Adversity and/or Trauma

As an increasing literature-base has emerged investigating secondary traumatic stress, various risk factors have been identified. One risk factor frequently identified within the research related to STS is a history of trauma or adverse experiences among care workers. In their longitudinal study of resilience in Hawaiian residents, Werner and Smith (2001) found that a number of stressful life events occurring during or prior to young adulthood, were directly associated with coping problems later in life.

To date, many studies have continued to use Adverse Childhood Experiences (ACEs) as a metric of negative early experiences, not only for children, but also for adult populations. Given that 21.7% of typical children experience two or adverse childhood experiences (Maternal and Child Health Bureau, 2016), it is clear the same would be true of adult populations. The original ACEs study sampled over 1,700 adults and found that nearly 64% of participants had at least one adverse childhood experience and more than 22% of participants reported three or more (Felitti & Anda, 2010). Additionally, women were twice as likely as men to report five or more ACEs. Moreover, the findings revealed a dose-response relationship between adverse childhood experiences exposure and negative outcomes in overall health and well-being across the life span (Centers for Disease Control and Prevention, 2016; Felitti & Anda, 2010; Felitti et al., 1998).

Several studies have utilized survey methodology to evaluate the prevalence of adverse childhood experiences in individuals who hold jobs within the various helping professions in order to explore the implications these experiences might have for their work. Thomas (2016) was interested in investigating prevalence rates of ACEs in graduate students working toward careers in helping professions (specifically social work). Although the author utilized a much smaller sample size ($n = 79$) than the ACEs study, findings indicated higher prevalence rates than those of the ACEs study; with 79% of participants reporting at least one adverse childhood experience and approximately 51% reporting three or more (compared to 64% and 22% respectively). Other studies of various helping professionals have found comparable rates of individuals who reported at least one ACE, with percentages ranging from 75 to 77 (Hiles Howard et al., 2015; Keesler, 2018; Lee, Pang, Lee, & Melby, 2017).

Keesler (2018) and Lee et al. (2017) used online survey methodology to investigate the prevalence of ACEs in populations of helping professionals. Lee et al. (2017) obtained a sample of 130 volunteer participants from an optional self-care training program offered through their employer. The participants were all child welfare professionals from the state of Iowa. Similar to Thomas' (2016) findings, 52% of participants reported three or more ACEs. Conversely, Keesler (2018) used snowball sampling to collect responses from 386 professionals who provide direct care to individuals with intellectual and developmental disabilities. He found that 39% of participants reported three or more ACEs. Other studies have yielded similar results to those of Keesler with percentages of participants who endorsed three or more ACEs falling between 28% and 35% (Esaki & Larkin, 2013; Hiles Howard et al., 2015).

Overall, research in this area suggest individuals in helping professions may report higher prevalence rates of ACEs than the typical adult population in the United States.

Esaki and Larkin (2013) were interested specifically in the prevalence of adverse childhood experiences among staff who work for a voluntary residential placement for youth who have experienced trauma. The residential placement is run by an agency who employs individuals in a number of varying roles including clinicians, direct-care staff, teachers, and home visitors. Indirect staff such as administrators, human resources, clerical staff, etc., were also included in the sample. This investigation yielded lower prevalence rates comparably, with approximately 28% of participants reporting three or more ACEs and the inclusion of indirect staff may have contributed to these results. The most common adverse childhood experience reported (34%) was growing up with a family member who was mentally ill (Esaki & Larkin, 2013). Several other studies indicated parental divorce/separation was the most commonly endorsed adverse childhood experiences (Hiles Howard et al., 2015; Keesler, 2018; Thomas, 2016).

In summation, research has indicated that early adverse experiences can lead to an individual's choice to work in human services professions (Lee et al., 2017). The evidence provided indicates that human service providers as a group, possess higher prevalence rates of ACEs than the general population. Care workers with higher ACEs scores or a self-reported history of trauma are at higher risk for developing secondary traumatic stress symptoms as a result of their profession and/or training experiences (Akinsulure-Smith et al., 2018; Esaki & Larkin, 2013; Hensel et al., 2015; Meyers & Cornille, 2002).

Gender

Another risk factor for secondary traumatic stress identified in the literature is gender. Results of a meta-analysis (Baum et al., 2014) and a systematic review (Baum, 2016) of gender findings in studies of secondary traumatic stress in mental health care professionals found females to be more susceptible to STS. Baum (2016) suggests previous direct trauma exposure may have acted as a confounding variable, as it was addressed as a risk factor for STS in many of the studies reviewed. Additionally, gender differences in the likelihood to disclose symptoms of emotional distress was also discussed as a possible explanation or limitation (Baum, 2016; Baum et al., 2014).

With regard to gender and ACEs, findings within the literature have been inconsistent. Similar to the original ACEs study, Kessler (2018) found that women were significantly more likely than men to report higher ACEs scores. Other recent studies indicated no significant differences between males and females in ACEs scores (Esaki & Larkin, 2013; Thomas, 2016).

Relatedly, women are diagnosed with posttraumatic stress disorder twice as often as men (American Psychiatric Association, 2013). This difference has gained recent attention among researchers. While psychobiological research including women in the sample is limited, some evidence suggests that biological differences between the sexes related to the effects of oxytocin may contribute to posttraumatic stress disorder (PTSD) expression (Olff, 2017). Recently, Cowden Hindash et al. (2019) examined attentional threat biases, or the tendency to focus on or notice specific stimuli within one's environment, in a sample of 70 individuals. Forty-one individuals within the sample were previously diagnosed PTSD. Utilizing a facial dot-probe attention bias task, in addition to

self-report measures, the authors found that women with PTSD were significantly more likely to demonstrate attentional threat biases. The authors also speculated that the type of trauma experienced contributes to higher rates of PTSD in women. They found that women who reported both sexual and physical assault were significantly more likely than all other groups to demonstrate attentional threat biases (Cowden Hindash et al., 2019). Women are significantly more likely than men to be the victim of sexual violence, stalking, and/or intimate partner violence (Smith, Zhang, et al., 2018). Similarly, several studies have found evidence to suggest that sexual trauma is associated with greater symptom severity compared to other types of traumatic experiences (Keshet & Gilboa-Schechtman, 2019; Smith, Summers, Dillon, & Cogle, 2016).

Interestingly, Werner and Smith (2001) found women to be more “resilient” overall, in their longitudinal study of risk and resilience in Hawaiian youth. Infant mortality was higher in males than females and overtime, male youth were more likely to develop learning and behavior problems than female youth. Lastly, more women than men successfully transitioned into adulthood—showing fewer signs of psychopathology and being more likely to rely on social support in times of stress than men. Men were more likely to rely on alcohol and other substances to temporarily relieve their stress than women (Werner & Smith, 2001). While these findings are more specifically connected to direct trauma and adversity than experiences of STS, they bear significant implications to risk, as well as the potential salience of various protective factors.

Coping Styles

Coping takes place in a stressful situation, where individuals use various behavioral and cognitive methods of handling the situation, utilizing varying amounts of

individual resources to counter the demands of the particular situation (Akinsulure-Smith et al., 2018). Lazarus and Folkman proposed a cognitive theory of addressing stress that suggested a bidirectional relationship exists between the individual and their environment (as cited in Folkman et al., 1986). When faced with a stressful event, one engages in a cognitive appraisal of the situation and then engages in coping behaviors (Folkman et al., 1986).

Recently, several studies have emerged suggesting that the use of maladaptive coping styles may act as a risk factor for STS (Hamid & Musa, 2017; Newell & MacNeil, 2010), however, the specific coping techniques identified have varied throughout the literature. Akinsulure-Smith et al. (2018), for example, were interested in how coping styles affected secondary traumatic stress symptoms in refugee resettlement workers in the United States. The authors found that some coping strategies were positively associated with STS symptoms. These strategies could therefore be considered maladaptive coping in this context and included venting, self-distraction, substance use, use of humor, self-blame, and behavioral disengagement. The authors did not find any coping techniques that protected against STS (Akinsulure-Smith et al., 2018). Similarly, Lee et al. (2017) examined coping strategies for alleviating work stress in child welfare professionals' in the state of Iowa. Findings indicated that negative coping strategies significantly predicted higher levels of work-related stress. The authors conceptualized negative coping as use of alcohol or drugs, denial, and behavioral disengagement. Positive coping strategies, on the other hand, were not significant predictors of work stress (Lee et al., 2017).

Moreover, as increasing literature on STS and PTSD has emerged, understanding effective coping strategies for combatting the effects of helping work has begun to gain recognition as an essential area of study. Many researchers have suggested a problem-focused coping style is a particularly adaptive coping style and bears greater association to psychological wellness than other styles of coping (Folkman et al., 1986; Lee et al., 2017; Morimoto, Shimada, & Tanaka, 2015; Studley & Chung, 2015). Lazarus and Folkman theorized this is so because problem-focused coping is more likely to solve the problem or alter the situation in a significant way as compared with other methods of coping (as cited in Folkman et al., 1986). Researchers have found problem-focused coping to be negatively associated with PTSD (e.g., Creech et al., 2013; Hassija et al., 2015; Studley & Chung, 2015) as well as other symptoms of psychological distress (Morimoto et al., 2015). However, studies seeking to investigate the relationship between problem-focused coping and secondary traumatic stress, particularly within a United States based sample, have proven to be limited.

Anderson (2000) surveyed 131 child welfare workers/administrators employed by the state Department of Social Services in a southern state and found that problem-focused coping was associated with a greater sense of personal accomplishment at work. Greater use of problem-focused coping was also correlated with lower levels of depersonalization. While this research investigated burnout rather than secondary traumatic stress, the results still bear relevance to STS as many have suggested that untreated STS can often lead to burnout (e.g., Bell et al., 2003; Conrad & Kellar-Guenther, 2006).

Later, in one study of caregivers across settings (i.e. schools, hospitals, welfare centers and charity organizations) in the United Arab Emirates, a Pearson correlation analysis demonstrated “task-focused coping” (often referred to as problem-focused coping) was negatively associated with STS (Hamid & Musa, 2017). The authors also conducted a regression analysis with STS as the dependent variable and all coping variables as a mediating variable. Results indicated that coping accounted for 26% of the variance in STS. Unfortunately, based on these results, it is impossible to determine which coping style(s) or techniques were responsible for this finding.

Bourke and Craun (2014) sought to compare risk and protective factors related to secondary traumatic stress in law enforcement officers working in the field of child exploitation in the United States and the United Kingdom. The authors found significantly higher rates of secondary traumatic stress in their United States sample than they found in their United Kingdom sample despite the authors’ speculation that a similar culture between countries would yield similar results. In the United States sample, the authors found that using denial as one’s primary coping mechanism resulted in significantly higher rates of STS in both samples (Bourke & Craun, 2014). Bourke and Craun (2014) also found use of social support as a coping technique was correlated with lower levels of secondary traumatic stress in the United States sample only. No other coping techniques were found to act as protective factors against secondary traumatic stress.

Empathy

Figley (1995) suggested a trauma worker’s capacity for empathy acts not only as a valuable resource, which helps them connect to the traumatized individuals they serve,

but also as a unique vulnerability to STS. It has been suggested that an increased capacity for empathy may increase the likelihood of experiencing the client's trauma as their one's (Baum, 2016; Baum et al., 2014). This hypothesis was investigated with police officers involved in sexual assault and rape investigations; results did not support the original hypothesis (Turgoose et al., 2017). Overall, much of the literature suggesting this relationship has been theoretical in nature.

Empathy has been defined in a number of differing ways, however, with recent advancements in social cognitive neuroscience have led to a multipart conceptualization of the term (Gerdes, Geiger, Lietz, Wagaman, & Segal, 2012; Gerdes, Lietz, & Segal, 2011; Lietz et al., 2011). While there appears to be no clear consensus in the literature, for the purposes of this study, empathy will be defined as it was by Segal et al. (2017) in their construction of the Empathy Assessment Index (EAI). The authors defined empathy as containing five components: (1) affective response, or one's reactions to another; (2) affective mentalizing, or the process of cognitively assessing the emotional state of another (3) perspective taking; or to imagine the experiences of another; (4) self-other awareness, or one's ability to separate their own thoughts, feelings, and experiences from those of another; and (5) emotion regulation, which in this context refers to one's ability to understand the emotions of another (Segal et al., 2017).

Additionally, some recent literature has shown interest in countering the argument that empathy would increase the likelihood of secondary traumatic stress. Woodward, Murrell, and Bettler (2005) were interested in whether empathy served as a mediator for STS. The authors found no evidence of this relationship between empathy and STS. However, the study utilized a sample of undergraduate psychology students living in

Kentucky after the 9/11 terrorist attacks. The generalizability of these findings is limited in nature. On the contrary, Wagaman et al. (2015) investigated the direct effect of empathy on secondary traumatic stress in community-based social workers. Results of multiple linear regression analysis indicated higher rates of empathy, as determined by the EAI (Gerdes et al., 2012; Lietz et al., 2011) accounted for a significant amount of the variance in STS (14%). Specifically, the self-other awareness and emotion regulation scales of the EAI accounted for this finding (Wagaman et al., 2015). It is of note that results varied significantly depending on the occupational role of the participant—those in administrative positions (no direct practice) reported lower levels of STS.

Qualitative research conducted with mental health care providers, whose occupational settings and roles were not identified, demonstrated strong self-other awareness (i.e. boundaries) enhanced the working experience of the clinicians and was not associated with higher rates of STS. Clinicians who identified as feeling competent and able to successfully manage their professional role were targeted for sampling procedures (Harrison & Westwood, 2009). Similarly, Wagaman et al. (2015) suggest that the last three components of empathy mentioned above (perspective-taking, self-other awareness, and emotion regulation) are cognitive components of empathy. The authors go on to propose that empathy can be learned over time. “[B]y engaging all three of these cognitive components, the practitioner is able to feel the client’s distress of crying but recognize the difference between the client’s actions and the practitioner’s own physiological reactions, use those feelings to engage in deep understanding, and simultaneously regulate her or his own emotions so as not to be overwhelmed” (Wagaman et al., 2015, pp. 203-204). Interestingly, Sun, Vuillier, Hui, and Kogan (2019)

investigated the relationship between coping strategies and empathy in almost 4,000 adults from the both the United States and the United Kingdom. Authors found that greater experiences of empathy were consistently associated with higher use of problem-focused coping methods. While unrelated to secondary traumatic stress, this relationship is certainly noteworthy.

Compassion Satisfaction

In opposition to the concept of compassion fatigue, “compassion satisfaction” (CS) is also a frequently explored concept within the literature. Stamm (2002) defines compassion as “...feeling and acting with deep empathy and sorrow for those who suffer” (p. 107). Stamm (2002) explains compassion as a necessary component of helping behavior as is gaining a feeling of satisfaction from said helping behavior.

Several researchers have shown interest in the effects of CS on secondary traumatic stress. Samios, Abel, and Rodzik (2013) investigated whether or not CS would moderate the effects of secondary traumatic stress symptoms on depression and anxiety in therapists working with sexual violence survivors in Australia. The authors found no relationship between CS and STS. They did find evidence that CS moderated the effects of STS on anxiety, but not on depression (Samios et al., 2013). Similarly, Eastwood and Ecklund (2008) found no significant relationship between CS and compassion fatigue in their study of direct-care staff in two residential treatment centers in the United States. However, the authors did find CS to be negatively correlated with the staff’s perceptions of stress or feeling overwhelmed in the workplace.

Contrary to these findings, studies of individuals in other occupations such as nurses (Hinderer et al., 2014) and caregivers across various settings (Hamid & Musa,

2017) found higher levels of compassion satisfaction were significantly correlated with lower levels of STS. Another study of CS in Colorado child protection workers also found higher rates of CS to be significantly correlated with lower levels of STS symptomology (Conrad & Kellar-Guenther, 2006). The authors utilized an earlier version of the Professional Quality of Life Scale (Stamm, 2009). This version conceptualized compassion fatigue as “symptoms of work-related PTSD” (Conrad & Kellar-Guenther, 2006, p. 1075), which matches the present conceptualization of secondary traumatic stress.

Zerach (2013) compared RTC staff from 24 treatment centers to staff at 15 boarding schools in Israel. Results indicated higher rates of compassion satisfaction in the residential treatment center staff and the authors speculated that feeling increased CS in the work place may act as a protective factor for staff against experiences of burnout (Zerach, 2013). The conclusions drawn from these findings yield promising implications for multiple settings. As the only study, to my knowledge, to compare RTC staff to staff in boarding schools, results indicating no significant difference in rates of STS between groups is of significant importance. These findings suggest research of this nature bears relevance not only to residential care facilities but also to schools and other environments where youth are cared for and supported. Moreover, Zerach’s (2013) participants consisted only of direct care staff in both settings. He explains that in the boarding schools he sampled, direct care staff were responsible for rule enforcement, safety concerns, setting limits for the youth, conducting social activities, and more (similar to the role of direct care staff in RTCs). The author chose to exclude educational or clinical staff from his sample.

Work Environment

Given the negative consequences secondary traumatic stress can have on individual well-being, many researchers have taken an interest in organizational factors that may reduce the effect of STS on employees. Similar to social support, supervisory support has been identified as a protective factor against STS in law enforcement personnel (Bourke & Craun, 2014) and social workers (Newell & MacNeil, 2010). Another factor related to the work environment, for clinician's specifically, involves caseload. A higher caseload of traumatized clients (Hensel et al., 2015; Newell & MacNeil, 2010) or greater exposure to traumatic material (Turgoose et al., 2017), have also been identified as a risk factor for secondary traumatic stress. A supportive work environment and coworkers also serve as important sources of social support and reduces STS (Bourke & Craun, 2014; Newell & MacNeil, 2010). In Bourke and Craun's (2014) study of law enforcement officers working in child exploitation divisions, participants who felt they could rely on the support of their coworkers demonstrated lower levels of secondary traumatic stress in the United States sample only.

Slattery and Goodman (2009) surveyed 148 domestic violence advocates working in various occupational settings. They were interested in identifying factors within their work environments that reduced the effects of STS. While several factors were investigated, results indicated shared power in the workplace was the only variable that yielded statistically significant results in their multivariate analyses. Univariate correlations demonstrated quality supervision and support among coworkers reduced symptoms of STS. One limitation of the measures utilized exists in the authors' use of a posttraumatic stress disorder self-report survey to measure STS. While posttraumatic

stress disorder and STS are almost identical in presentation, many PTSD scales focus questions on direct trauma experience rather than indirect.

Bell et al. (2003) suggest educating staff about the existence of secondary traumatic stress creates a framework in which individuals are better prepared to understand and address their own experiences/symptoms. Fostering this education early on may also reduce stigma (and associated feelings of inadequacy) within the workplace associated with STS (Newell & MacNeil, 2010). This speaks to the importance of ongoing professional development experiences in the workplace.

While some research has emerged investigating organizational factors that reduce secondary traumatic stress for target occupations or select agencies, a gap in the literature exists in the effects of these factors in a multidisciplinary setting. Many organizational settings serving traumatized youth involve professionals from several disciplines and require them to work together (i.e. residential treatment centers, schools, hospitals). Investigating the effects of coworker support, or staff cohesion, on STS in a multidisciplinary environment would significantly contribute to the knowledge base. Gaining insight into the impact of this organizational factor would yield implications for work environments on a much larger scale.

Current Study

In summary, while a large body of the existing literature has sought to investigate risk factors associated with secondary traumatic stress, few studies have investigated protective factors in any meaningful way. Given the negative consequences of secondary traumatic stress, not only for the staff who suffer from it but also for the youth they serve, investigations into potential protective factors are essential. Investigations of this nature

represent a critical gap in the literature. This study investigated the role empathy, problem-focused coping, compassion satisfaction, and staff cohesion serve in the prevalence of STS in residential treatment center staff. Overall, youth that are referred for mental health treatment in more restrictive settings, such as residential treatment centers, have higher rates of direct trauma exposure. As a result, the staff that work in RTCs experience increased exposure to indirect trauma on a daily basis. Health prevention may be a better approach, particularly for high risk populations such as RTC staff, rather than avoiding risk.

CHAPTER III

METHODOLOGY

This chapter delineates the methodology used in this study, and includes sections on participants and setting, instrumentation, research design, procedures, and data analysis. This study investigated the relationship between empathy, a problem-focused coping style, compassion satisfaction (CS), staff cohesion in the workplace, and experiences of secondary traumatic stress (STS) in residential treatment center (RTC) staff. The present study aimed to control for risk factors that had been previously established in the literature, including gender and prior exposure to direct trauma. This cross-sectional analysis asked participants to complete a single survey that included several self-report measures, outlined in detail below. Staff experiences of STS were also compared across occupational groups.

Participants and Setting

Participants in this study were recruited via purposeful and convenience sampling from two RTCs, located in a western state, focused on providing trauma-informed care to youth and adolescents in need. Residential treatment centers with whom I possessed a personal connection or contact person within the organization were approached for participation. I reached out to a contact person within each organization via email and inquired about the organization's interest in participating as well as procedures for obtaining permission from for data collection. Efforts were made to reach out to four

RTCs and two consented to participate. While these organizations provide treatment to youth with a wide range of diagnoses, all youth admitted have demonstrated a high level of need in the social/emotional domain.

The target population was residential treatment center staff who spend the majority of their day in direct contact with clients and therefore may be regularly exposed to indirect trauma. Recruitment strategies included forwarding a form letter email (see Appendix A) to the director of each RTC and asking that they forward it to all clinical staff, direct-care staff, and direct educational staff. This email invited staff to participate in an online, Qualtrics-based survey. Additionally, all clinical directors offered to verbally review the same information in one of their staff meetings and let staff know that they will be receiving an email soon.

In order to determine the minimum sample size, an a priori power analysis through G*Power 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009) was conducted. The alpha utilized for this analysis was .05 as this criterion is considered the accepted standard in the behavioral sciences (Cohen, Cohen, West, & Aiken, 2003). Similarly, as it is the recommended criterion in the behavioral sciences, the target level of statistical power was set at .8 (Cohen, 1988). An effect size of $f^2=.35$ was chosen for this study as it allowed for the detection of large effects. Prior effect sizes in the literature on the variables measured in the present study, have varied from large to zero. Once these numbers were entered into G*power's linear multiple regression: fixed model, R² increase test, the suggested sample size was calculated at 40.

According to the clinical directors of each residential treatment center, the survey was sent out to a total of approximately 322 employees. Overall, 65 participants

responded to the survey and 8 (12.3%) dropped out after the consent page, resulting in 57 participants. This equates to a response rate of 17.7%. Forty-eight participants completed the survey in full (14.9%), including the demographic questions. Three of the participants listed their occupation as “clinical intern.” These responses were removed from all analyses as they were not considered full-time employees of the RTCs. Participants who responded with other job titles were then clarified with the clinical director. All roles that involved direct contact with clients for at least three days of the week were utilized in the analysis. This resulted in one more response being discarded as they primarily worked with staff rather than clients. This equated to a final response rate of 13.6%. This was lower than the response rate in other studies of secondary traumatic stress, such as Lee et al. (2018) who reported 29% or Bride et al. (2004) who reported 48.4%. However, much like the present study, Choi (2011) also had more specific inclusion criteria in their study and reported a response rate of 15%, not dissimilar to the present response rate.

Of the remaining 44 participants who responded to the demographic questions, 75% were female ($n = 33$; see Table 3.1). Participants reported having between 4 months and 33 years of experience working in a residential treatment center ($M = 4.6$ years, $SD = 6.4$). All responses to this question were rounded to the nearest whole number during the data cleaning phase. This appears to accurately represent the target population as RTCs often experience high turnover rates (Connor et al., 2003), resulting in a disproportionately large number of early career professionals. Both RTCs also employ more females than males, as does the overall target population.

Table 3. 1

Sample Demographics

Demographic	<i>n</i> = 44	%
Gender		
Male	11	25.0
Female	33	75.0
Direct Trauma Exposure		
Yes	23	52.3
No	21	47.7
Occupational Role		
Direct-care staff	21	47.7
Clinical staff (i.e. therapist)	7	15.9
Education staff	9	20.5
Teacher	5	
Paraprofessional	4	
Other	7	15.9
Length of Time in the Field		
0-5 years	35	79.5
6-10 years	4	9.1
11-15 years	2	4.5
15-20 years	0	0.0
21-25 years	3	6.8

Note. “Other,” under the category of occupational role included individuals whose titles were as follows: behavior specialist, after school coordinator, and pull-out resource room teacher.

Instrumentation

This study used data from four measures in addition to a set of demographic questions, which were all embedded in a larger online survey. The complete survey included a total of 62 items and took no more than 16 minutes to complete for 80% of participants. Fifty-two percent of participants completed the survey in eight minutes or less.

The Empathy Assessment Index

The Empathy Assessment Index (EAI), developed by Gerdes et al. (2011) as a self-report measure of empathy. Originally developed as a 54-item scale, an exploratory factor analysis resulted in a 22-item measure including five subscales (Lietz et al., 2011; Segal et al., 2017). The subscales include Affective Response, Perspective Taking, Self-Other Awareness, Affective Mentalizing, and Emotion Regulation. Items are measured on a Likert scale with response options ranging from 1 (*never*) to 6 (*always*). Additionally, a total empathy score is calculated by summing responses. Total scores range from 22 to 132 with higher scores indicating a greater sense of empathy across domains. Internal consistency of scores within each of the subscales have been measured in previous studies with Cronbach alpha scores ranging from .64 to .83. This measure's scores have been shown to have adequate reliability when empathy was evaluated as a potential protective factor against STS in a sample of 173 social workers (Wagaman et al., 2015). In addition, statistically significant differences in scores between social service providers and individuals receiving services as the result of a violent crime provide evidence of criterion validity (Gerdes et al., 2012). Adequate concurrent validity of scores ($r = .476-.762$, $p < .001$) was also obtained in one study when comparing the scales of the EAI to the scales of another previously validated measure of empathy (Gerdes et al., 2011). Scales were compared based on the common theoretical concepts being measured. Author permission was granted to adapt this measure into a Qualtrics-based, online survey format (see Appendix B; Segal et al., 2017). Reliability of scores in the current sample was comparable to previous research, $\alpha = .84$.

The Professional Quality of Life Scale

The Professional Quality of Life Scale (see Appendix C) Version 5, was developed with data collected from over 3000 participants by Stamm (2009). This 30-item self-report scale measures both the positive and negative aspects of caring (Stamm, 2010). The Professional Quality of Life Scale (ProQOL) measures both compassion satisfaction as well as compassion fatigue. The compassion fatigue portion of the scale contains two subscales: Burnout and Secondary Traumatic Stress. The Burnout subscale of the ProQOL, which contains 10 items, was not included in the survey for the current study as it did not pertain to scope of the present study. It is important to note that although there is no total score on the ProQOL, the author (Stamm, 2010) recommended using all three subscales to enhance the psychometric properties and balance positive and negative items of the scale. Each scale included a total of 10 questions. Responses to each question were summed to create a total score. Scores for each scale range from 10 to 50 per scale, with higher scores indicating greater compassion satisfaction or a higher level of STS. Scores of 42 or greater on each scale are categorized as high-level responses and scores of 22 or less, per scale, are categorized as low-level responses.

The Professional Quality of Life Scale is free and available for professional use with appropriate recognition of the author; permission was not required to convert the scale into a Qualtrics format or to use only two of the three scales (Stamm, 2010). However, confirmation that these changes were permissible, along with formal written permission were obtained (see Appendix D). Items were measured on a Likert scale with response options ranging from 1 (*never*) to 5 (*very often*). Participants were asked to select their responses to the prompts based on how frequently they have experienced that

item within the last 30 days. Internal consistency of the scores of the Compassion Satisfaction and the Secondary Traumatic Stress subscales were measured in previous studies resulting in Cronbach alpha scores of .88 and .81, respectively (Stamm, 2009). The ProQOL has been utilized in over 200 published research papers, which speaks to the construct validity of the scores (Stamm, 2010). Reliability of scores within the Compassion Satisfaction subscale in the current sample was $\alpha = .90$ and $\alpha = .80$ in the STS subscale.

Coping with Stress

The Coping Orientation to Problems Experienced Inventory (Carver, Scheier, & Weintraub, 1989; see Appendix E) is a widely used 60-item self-report measure, designed to assess the various ways individuals respond to stress. The Coping Orientation to Problems Experienced Inventory (COPE) contains 15, four question subscales, which assess a broad range of coping responses. Items are measured on a Likert scale with response options ranging from 1 (*I don't do this at all*) to 4 (*I do this a lot*). Participants were asked to consider their typical behavior in response to a stressful event and respond to prompts about what they would do. To score the measure, responses to each item were summed. Scores for each subscale could range from 4 to 16, with higher scores indicating greater use of that coping technique.

Kato (2015) conducted a meta-analysis of studies evaluating coping styles and found the COPE was the most frequently used scale, accounting for 20.2% of the 2,000 studies selected. The median Cronbach's alpha obtained from the studies reviewed was 0.75. Moreover, Carver (n.d.) does not recommend any particular method of generating a

composite score or overall score; however, he does suggest researchers may select whichever scales they find pertinent to their research question. As a result, 61% of the studies analyzed by Kato (2015) adapted the COPE to meet their research needs. Many authors constructed new scales via factor analysis.

For example, Litman (2006) conducted two factor analyses on the Coping Orientation to Problems Experienced Inventory (COPE) in an effort to expand upon Folkman and Lazarus' theory of emotion-focused and problem-focused coping styles. Litman (2006) sought to further distinguish between socially-supported and self-sufficient coping styles. The author was also interested in coping styles that were approach oriented versus avoidance-oriented (Litman, 2006). Carver et al. (1989) also utilized Folkman and Lazarus' prior work as the foundational theory in the creation of their scale (as cited in Carver et al., 1989). The authors sought to further separate problem-focused coping styles into functional and nonfunctional coping strategies (Carver et al., 1989).

Results of Litman's (2006) factor analysis separated subscales into four dimensions. One dimension identified the planning, active coping, and suppression of competing activities subscales as self-sufficient, problem-focused coping strategies. Previous studies conducting factor analyses yielded similar results (O'Connor & O'Connor, 2003), which align with Carver et al.'s (1989) original findings identifying the same three subscales as problem-focused coping techniques. Two of these three subscales (active coping and planning), with the highest internal consistency of scores, according to Litman's (2006) factor analysis, were utilized for this study. Results from 404 articles

where authors used the COPE, yielded weighted aggregate Cronbach's alphas for scores in these two subscales of .77 and .82, respectively (Kato, 2015).

Moreover, Carver et al.'s (1989) analysis demonstrated the items from the active coping and planning subscales loaded on the same factor, indicating they are measuring a single theoretical construct. Furthermore, when Carver (1997) developed the Brief COPE, a shorter alternative to the full COPE, he removed the suppression of competing activities subscale as he found its content to be redundant. Based on these findings, items from these two subscales were combined to measure problem-focused coping for the purposes of this study. Each subscale contained four items, resulting in a total of eight items. Scores could range from 8 to 32, with higher scores indicated greater use of problem-focused coping techniques. The Coping Orientation to Problems Experienced Inventory (COPE) is free and available for public use; permission is not required to convert the scale into a Qualtrics format (Carver, n.d.). Reliability of scores in the current sample exceeded those of previous studies at $\alpha = .89$.

When validating scores of these subscales, evidence of convergent validity was found in previous research (Carver et al., 1989). The active coping and planning subscales were correlated with beneficial personality characteristics that were conceptually related to these coping styles (e.g. optimism, self-esteem, Type A, etc.). These characteristics were measured by several self-report personality inventories. Evidence of discriminant validity was also presented, as scores on the COPE scales were not correlated with the results of a social desirability measure (Carver et al., 1989). Additionally, this model of problem-focused coping has been validated with direct and indirect trauma exposure (Gil, 2005). Coping styles among Israeli students before and

after a terrorist explosion indicated that problem-focused coping was significantly associated with lower levels of posttraumatic stress disorder. Unfortunately, the author did not assess any differences that may have existed between students who experienced direct trauma exposure versus indirect trauma exposure but did state that 62% of the sample consisted of those who experienced indirect exposure (Gil, 2005).

Staff Cohesion

The staff cohesion scale of the Texas Christian University Organizational Readiness for Change: Treatment Staff Version (Institute of Behavioral Research, 2003; Lehman, Greener, & Simpson, 2002; see Appendix F) was utilized to evaluate the relationship between this work environment factor and STS. The staff cohesion scale of the Texas Christian University Organizational Readiness for Change: Treatment Staff Version (TCU ORC-S) includes 18 scales measuring varying aspects of organizational functioning. The staff cohesion scale contains six questions that measure the degree to which staff feel they have the support of their coworkers and can relate to one another. Participants were asked to respond to statements using a 5-point Likert scale, which ranges 1 (*disagree strongly*) to 5 (*agree strongly*). Two items are reverse coded by subtracting the item response from six. To score the measure, responses to each question were summed, the sum was divided by six to produce an average (total number of questions), and the average was then multiplied by 10. This resulted in a final score ranging from 10 to 50, with higher scores indicating greater feelings of staff cohesion. Scores of 40 or higher fall above the 75th percentile and scores 28 or lower fall below the 25th percentile (Institute of Behavioral Research, 2004).

The internal consistency of this scale was measured in a national sample of nearly 500 staff members from various programs, $\alpha = .84$ (Lehman et al., 2002). Moreover, Gagnon et al. (2014) conducted a systematic review of research, which assessed organizational functioning. The authors were interested in identifying a tool to assist in closing the gap between research and practice in health care systems. The psychometric properties of 26 instruments were reviewed. Scores of these measures were assessed on four validity criteria: (1) response processes validity, (2) relations to other variables (convergent, discriminant, predictive, and/or concurrent validity), (3) content validity, and (4) internal structure (Gagnon et al., 2014, p. 27). The Texas Christian University Organizational Readiness for Change (TCU ORC) was the only measure where all scores met the four validity criterion. Similarly, the TCU ORC scores also met the highest criteria for reporting of reliability standards according to the authors' review. Scores from the staff cohesion scale demonstrated good reliability when used to assess cohesion among staff members, clinical teams, and mental health agencies in three different states (Cronbach's $\alpha = 0.87$; Dreison, White, Bauer, Salyers, & McGuire, 2018). Reliability of scores in the current sample was comparable to previous research, $\alpha = .83$.

Demographic Characteristics

Lastly, demographic questions (see Appendix G) were used to collect information regarding gender, years of experience working in a residential treatment center, highest level of education, whether or not the participant had experienced direct trauma in the past, and their primary occupational role within the RTC (i.e., direct care, clinical, education, or other). Years of experience working in a residential treatment center was recorded via an open text box. Gender was determined by presenting a drop-down menu

with the following options: female, male, non-binary, gender queer, transgender, prefer not to answer, and other. If an individual selected “other,” a text box would appear for them to manually enter their gender identity. No participants in the current sample indicated a gender identity outside of the binary options of female and male. To account for direct trauma exposure, a definition was provided, followed by a yes or no question (“Would you describe yourself as having a history of direct trauma?”). Occupational role was determined via the following multiple-choice response options: direct-care staff, clinical staff (i.e. therapist), educational staff (i.e. teacher or paraprofessional), or other (with a text box). If a participant selected “educational staff,” a follow-up question would appear and inquire if they were a teacher, paraprofessional, or other (with a text box). Data on racial and/or ethnic identities were not collected because the sampling frame was predominantly Caucasian. Collecting this information could have jeopardized the anonymity of the study. Demographic questions were purposefully placed at the end of the survey to avoid any priming effects.

Research Design

This study utilized a quantitative, cross-sectional, survey-based research design to address the research questions (see Figure 3. 1). Cross-sectional designs are used to identify patterns or relationships between multiple variables but does not establish causality (Lewin, 2005). A survey method was chosen due to the minimal time commitment required from participants as well as my ability to utilize standardized and validated methods of measuring the target variables. This method of data collection allowed me to analyze relationships between the variables. The cross-sectional nature of

this research design indicates that participants completed the survey one time and no follow-up was required

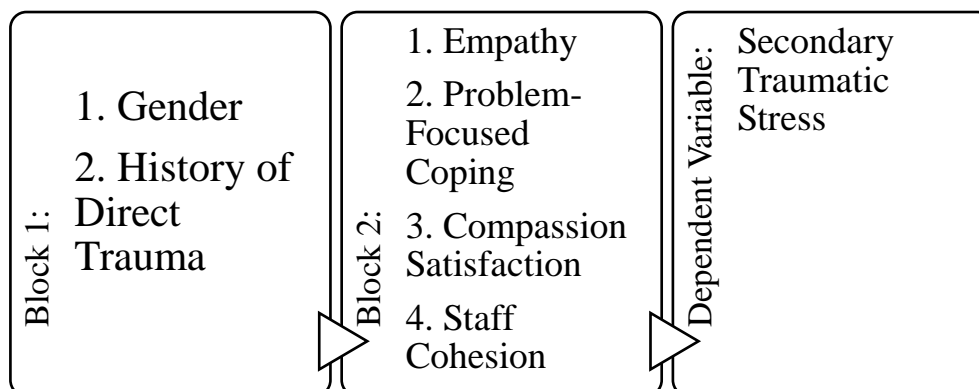


Figure 3.1 Model of variable interaction and impact on secondary traumatic stress

Procedures

Before any participants were contacted, permission was obtained from the Institutional Review Board at the University of Northern Colorado (see Appendix H). The study was granted exempt status by the Institutional Review Board. Utilizing convenience sampling, clinical directors, with whom I had a personal or professional connection were approached. Efforts were made to reach out to four residential treatment centers and two agreed to participate. The first residential treatment center provided a signed letter confirming their voluntary participation. This letter was not included in this manuscript in order to protect the organization's anonymity. The second RTC required that the study be reviewed by their own Institutional Review Board, which requested some changes be made to the informed consent page in order to improve its readability. Changes were made to the recruitment email and the informed consent page as a result and the study was approved under exempt status by the RTC's Institutional Review Board. Again, this approval letter was not included in this manuscript in order to protect

the organization's anonymity. These changes were submitted as an amendment to the University of Northern Colorado's Institutional Review Board and a second approval letter was obtained (see Appendix H). The same informed consent page was utilized for all participants regardless of their place of employment in order to ensure consistency (see Appendix I).

After agreeing to participate, the clinical director of each site emailed their staff on my behalf. The survey, which included questions from the above instruments as well as demographic questions, was distributed via a standard, form letter, email including an anonymous link to the Qualtrics-based survey (see Appendix A). Follow-up emails were sent out to each clinical director, asking if they would be willing to send out the survey a second time. One site sent out the recruitment email upwards of three times. The second site declined to send the email out more than once.

Questions from the aforementioned instruments as well as the informed consent page (see Appendix I) were forced response. All demographic questions were optional; this allowed participants to skip any questions they may have been uncomfortable answering. Participants were able to withdraw their participation from the survey at any time by exiting the web page prior to completion. Moreover, the expert determination method of de-identification, §164.514(b)(1) of the HIPAA Privacy Rule was utilized to ensure participant privacy. This method ensures the risk is very small that the information collected could be used to identify any of the participants. This was achieved by distributing the survey through an anonymous link. An anonymous link did not collect any identifying information such as name or email address from participants. Only an IP

address was collected via this method, which is not considered identifying information according to the HIPAA Privacy Rule.

As an incentive, participants were given the option to enter for a chance to win a \$50 gift card to Amazon after completing the survey in full. This was executed via an additional question at the end of the survey. Participants were asked if they would like to enter the raffle. Those who declined were provided with a web-based page of information on STS along with resources for any individuals experiencing symptoms of STS (see Appendix J). This final page served as a debriefing for participants and provided them with relevant resources if they were experiencing any STS symptoms and/or emotional discomfort from responding to the survey questions. Those who consented to enter the raffle were provided with a link to a second survey asking for their name and email address. The second survey was not connected in any way to the first one and therefore all research survey responses remained anonymous. I designed the raffle to include a randomizer. Meaning that the Qualtrics software randomly selected a winner out of the responses to the second survey. The winner received an email from a third-party website, rewardsgenius.com, with a redemption link for a \$50 e-gift card to Amazon. After participants completed the second survey, they were presented with the debriefing form (Appendix J). Lastly, after all responses were collected, I exported and cleaned the data as described below.

Data Analysis

Data were exported from Qualtrics into IBM's SPSS 24, which was utilized to clean and analyze the data. All survey questions were scored according to the guidelines of that instrument and total scores for each variable were created for the analysis.

Listwise deletion was used to remove missing data from each analysis. Descriptive statistics and frequency distributions were calculated for all variables, including means, standard deviations, skew, and kurtosis values (see Table 4.1). Histograms were also examined to check for possible outliers. To check for measurement error, reliability of scores for each instrument were determined using Cronbach's alpha and principal component analyses (PCA) were conducted for each instrument. The purpose of the PCA was to ensure that each scale was measuring one component as the study was designed, as well as to reduce any redundancies if necessary. The suitability of this procedure for the data was evaluated prior to each analysis. The scree plot test was utilized as the extraction procedure (Cattell, 1966).

Hierarchical multiple regression was selected as the method of data analysis as the order in which the independent variables were entered into the regression was predetermined, based on research. One of the most valuable features of multiple regression is that it allows the researcher to control for variables that may influence the effect of the independent variables on the dependent variable (Cohen et al., 2003). A number of researchers have found evidence to suggest that a history of direct trauma experiences may place professionals at greater risk for secondary traumatic stress (Akinsulure-Smith et al., 2018; Esaki & Larkin, 2013; Hensel et al., 2015; Meyers & Cornille, 2002). While the findings on the relationship between gender and STS are mixed, it has been established that women are twice as likely as men to be diagnosed with posttraumatic stress disorder (American Psychiatric Association, 2013). As a result, the precedent has been established for both gender and direct trauma exposure to be entered into the regression analysis first. Block entry was chosen because no such

precedent has been established for the remaining four independent variables, regarding their relationship to STS. Block entry allows the researcher to evaluate the change in explained variance after the new variables have been entered into the regression (Keith, 2006).

Research Question One

In order to determine whether or not empathy, problem-focused coping, compassion satisfaction, staff cohesion, and secondary traumatic stress were related to one another, a correlational analysis was conducted utilizing Pearson's r . In order to reduce the risk of Type I error, a Bonferroni correction was conducted and an adjusted alpha of .008 was utilized to ascertain the strength of the relationships between the variables. It was determined that linearity was present via visual inspection of individual scatterplots, comparing each independent variable to the STS total scores. No outliers were identified via the scatterplots. Bivariate normality of the four predictor variables was assessed via the Shapiro-Wilk's test. All variables were normally distributed ($p < .05$), with the exception of the results of the Coping Orientation to Problems Experienced Inventory (COPE). Given the robust nature of Pearson's correlation to deviations from normality, I carried on with the analysis (Laerd Statistics, 2018). Pairwise deletion was utilized to remove incomplete data from this analysis.

Both gender and history of trauma were dummy coded in order to include them in all analyses. In order to evaluate the relationship between these dichotomous variables and the remaining variables, biserial correlations were conducted. First, inspection of boxplots showed that there were no outliers in the data, as there were no values greater than 1.5 box-lengths from the edge of the box. There was homogeneity of variances for

secondary traumatic stress scores for those who had experienced direct trauma and those who had not, as assessed by Levene's test for equality of variances ($p = .247$). However, the homogeneity of variances assumption was violated for STS scores between males and females ($p = .014$). This was likely due to the overrepresentation of females within the sample (75%). Due to the low number of male participants ($n = 11$), a square transformation of the STS scores was used in order to conduct the biserial correlation between secondary traumatic stress scores and gender. STS scores were normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$).

While conducting biserial correlations between gender and the remaining variables, outliers were often present. One outlier was identified via inspection of a boxplot displaying the relationship between compassion satisfaction (CS) and gender. The outlier was retained for this analysis as it did not significantly affect results. The same is true of problem-focused coping and gender. Similarly, when evaluating the relationship between empathy and gender, two outliers were identified via inspection of a boxplot. Findings with and without the outliers are both reported in the results section below.

Similarly, biserial correlations between direct trauma and the remaining variables also produced several outliers. One outlier was identified via inspection of a boxplot for both empathy and CS distributions in relationship to direct trauma exposure. Two outliers were identified in the staff cohesion distribution as well. These outliers were all retained for the final analyses as their removal led to minimal impact on the results. The Coping Orientation to Problems Experienced Inventory (COPE) total scores, in relationship to direct trauma exposure, violated the normality assumption and one outlier was present. A

square transformation was utilized on the COPE total scores in order to ascertain the strength of the relationship between problem-focused coping and direct trauma exposure. The outlier was retained for this analysis as its removal did not significantly impact the findings. Lastly, in order to determine if a relationship existed between gender and direct trauma exposure, a chi-square test for association was conducted. All assumptions were met as all expected cell frequencies were greater than five.

Research Question Two

In order to determine whether or not an increased capacity for empathy, a problem focused coping style, compassion satisfaction, and/or staff cohesion explain secondary traumatic stress symptoms in residential treatment center staff, while controlling for history of direct trauma, a hierarchical regression analysis was conducted. Gender was ultimately excluded from the analysis due to the low number of male responses. The R^2 and associated F test at step 1 of the analysis determined if the potentially extraneous variable, history of direct trauma, contributed significantly to the explanation of STS. At step 2 of the analysis, the other four variables were entered into the model to determine if the increment in R^2 added by these four variables explained a significant proportion of variance in secondary traumatic stress scores, after controlling for history of direct trauma. Next, the amount of variance explained by each variable within the model, at the step where they were added to the model, was evaluated to determine which variables, if any, were acting independently and which variables were acting as protective factors against STS. When assessing the statistical significance of each of the five predictor variables, a Bonferroni adjustment was used to calculate an adjusted alpha per test, in order to maintain an overall alpha of .05 across all five tests.

In addition, formal tests of potential assumption violations were conducted before interpreting the results of the regression analysis. The assumptions of multiple regression are as follows: linearity, homoscedasticity, independence of errors, normality, absence of measurement error, and the absence of collinearity (Keith, 2006). In order to assess linearity, a scatterplot of standardized residuals was compared to a scatterplot of the predicted values. The plot showed no discernable pattern, therefore confirming linearity. It was determined that there was homoscedasticity and independence of errors, via visual inspection. Visual inspection of both a histogram and a P-P plot of the standardized residuals were also indicative of normality. Tolerance values of .54 and above indicated that there was no redundancy among predictor variables. Tolerance values indicate the percent of variance in each predictor variable that cannot be accounted for by the other predictors. Moreover, values less than .10 are cause for caution and may indicate that a predictor variable is redundant. Reliability estimates of the current sample, outlined above in the section above on instrumentation, support the absence of measurement error (Cronbach's α of .8 and above). Calculation of variance inflation factors confirmed the absence of collinearity among the predictor variables. The largest variance inflation factor (VIF) of 1.85 was far below the suggested maximum of 10.0; the VIF of 10 would be indicative of extreme collinearity (Cohen et al., 2003). Moreover, diagnostics indicated that all cases had standardized residuals less than ± 3 standard deviations. Therefore, I determined that there were no outliers within the data set and all cases were retained for the analysis.

Empathy related to secondary traumatic stress. Hierarchical multiple regression was utilized to evaluate the extent to which higher scores on the Empathy

Assessment Index (EAI; Lietz et al., 2011) were associated with scores of STS reported via the Professional Quality of Life Scale (ProQOL; Stamm, 2010). This analysis controlled for the experience of direct trauma. The greater the variance explained by this regression analysis, the greater the likelihood that a higher capacity for empathy protects against STS.

Problem-focused coping related to secondary traumatic stress. Hierarchical multiple regression was utilized to evaluate the extent to which higher scores on the selected subscales (active coping and planning) of the COPE (Carver et al., 1989) were associated with scores of STS reported via the ProQOL (Stamm, 2010). This analysis controlled for the experience of direct trauma. The greater the variance explained by this regression analysis, the greater the likelihood that a problem-focused coping style protects against secondary traumatic stress.

Compassion satisfaction related to secondary traumatic stress. Hierarchical multiple regression was utilized to evaluate the extent to which higher scores on the CS subscale of the Professional Quality of Life Scale (Stamm, 2010) were associated with scores of STS reported via the STS subscale of the ProQOL (Stamm, 2010). This analysis controlled for the experience of direct trauma. The greater the variance explained by this regression analysis, the greater the likelihood that greater CS protects against secondary traumatic stress.

Staff cohesion related to secondary traumatic stress. Hierarchical MR was utilized to evaluate the extent to which higher scores on the staff cohesion subscale of the Texas Christian University Organizational Readiness for Change: Treatment Staff Version (TCU ORC-S; Institute of Behavioral Research, 2003) were associated with

scores of STS reported via the ProQOL (Stamm, 2010). This analysis controlled for the experience of direct trauma. The greater the variance explained by this regression analysis, the greater the likelihood that higher perceptions of staff cohesion in the workplace protects against secondary traumatic stress.

Research Question Three

To determine if the amount of secondary traumatic stress experienced differed between occupational groups, a one-factor ANOVA was conducted. The following assumptions of ANOVA were tested: (1) each population group is normally distributed; (2) the variances are equal between groups; (3) each group is independent of each other and all participants' responses are independent of one another within groups (Glass & Hopkins, 2008). The ANOVA analyzed the differences in STS scores between direct-care staff, education staff, clinical staff, and those who responded as "other." The assumptions of ANOVA were tested and were met. Secondary traumatic stress was normally distributed for direct-care staff ($p = .102$), clinical staff ($p = .729$), educational staff ($p = .511$), and others ($p = .788$), as assessed by Shapiro-Wilk's test (see Table 4.4 in Results section for descriptive statistics). Homogeneity of variances was also achieved, as assessed by Levene's test for equality of variances ($p = .149$). As a result of my sampling method, the independence of observations assumption may have been violated as some participants likely knew one another. However, all participants belonged only to one group and levels of STS was measured at one solitary point in time, therefore, a one-factor ANOVA was still considered the most appropriate method of analysis. There were no outliers in the data, as assessed by examination of boxplots for each occupational

group. To reduce the risk of committing type 1 error, a more conservative alpha of .01 was utilized.

CHAPTER IV

RESULTS

Descriptive Statistics

Contrary to expectations, the current sample did not report elevated levels of secondary traumatic stress overall. Only one participant fell within the high range. The majority of responses fell within the average range ($M = 26.98$, $SD = 5.66$; see Table 4.1).

Table 4. 1

Descriptive Statistics of Variables

Variable Name	<i>n</i>	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Empathy	53	102.49	9.47	.05	.05
STS	46	26.98	5.66	.11	-.11
CS	46	41.33	5.12	-.50	-.17
Coping	45	25.44	4.64	-.64	-.58
Staff Cohesion	44	34.02	6.95	-.12	.06

However, 47.83% of participants reported higher than average levels of compassion satisfaction ($M = 41.33$, $SD = 5.12$). Responses to the Coping Orientation to Problems Experienced Inventory (COPE) indicated that staff trended toward greater use of problem-focused coping techniques ($M = 25.44$, $SD = 4.64$). Regarding staff cohesion, visual inspection of a histogram suggested a normal distribution with the majority of responses falling between the 25th and 75th percentile ($M = 34.02$, $SD = 6.95$). Visual

examination of a histogram, showing responses to the Empathy Assessment Index (EAI; Segal et al., 2017), also indicated a normal distribution ($M = 102.49$, $SD = 9.47$).

Dimension-Reduction and Analysis of Each Measure

A principal components analysis (PCA) was run on the EAI, the Active Coping and Planning subscales of the COPE, the STS and Compassion Satisfaction subscales of the Professional Quality of Life Scale (ProQOL), and the Staff Cohesion scale of the Texas Christian University Organizational Readiness for Change: Treatment Staff Version (TCU ORC-S). The purpose of the PCA was to ensure that the items of each scale came together to measure one construct, and also to reduce redundancies within each measure. Moreover, are the items of each scale, coming together to measure one construct. The other purpose of conducting a PCA was to reduce any redundancies if necessary. The suitability of PCA was evaluated prior to each analysis.

Empathy Assessment Index

Results of the PCA on the EAI showed that the overall Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value was .59, which is considered to be within the acceptable range. Stronger KMO measures fall closer to 1, with .5 being viewed as the minimum cutoff (Kaiser, 1974). Bartlett's Test of sphericity was statistically significant ($p < .0005$) as well, indicating that the data were suitable for a PCA. The EAI includes five subscales and when all items were forced onto one factor, the solitary component explained 25.75% of the total variance. Examination of individual KMO values in addition to the component coefficients indicated that six questions (items 5, 8, 10, 11, 15, and 21) were not strongly correlated with a single component interpretation (individual KMO values $< .05$). As a result, these items were removed from the analysis.

After removing the above items, the overall KMO measure improved to .73, which would be considered “middling” according to Kaiser (1974), and within the acceptable range (see Table 4.2). Reliability of scores was not notably impacted by this change, with a reduction of .01 ($\alpha = .83$). The new total variance explained by a single component solution was 31.20%. Component coefficients now showed that all but one item (question 17) were correlated with a single component interpretation. Item 17 was removed and the resulting total variance explained by the single component solution increased to 32.89%. Visual inspection of the scree plot, after these items were removed, showed that only one component fell above the inflection point.

Table 4. 2

Kaiser's (1974) Evaluation of Levels of the Index of Factorial Simplicity

KMO Measure	Classification
in the .90s	Marvelous
in the .80s	Meritorious
in the .70s	Middling
in the .60s	Mediocre
in the .50s	Miserable
below .50	Unacceptable

The Coping Orientation to Problems Experienced Inventory

Results of the PCA of the eight questions composing the Active Coping and Planning subscales of the COPE showed that the overall Kaiser-Meyer-Olkin (KMO) measure was .86, which is considered good or “meritorious” on Kaiser’s measure of sampling adequacy (Kaiser, 1974). All individual KMO measures were greater than .81,

indicating adequate sampling (Kaiser, 1974). Results of the correlation matrix indicated that all variables had at least one correlation coefficient greater than 0.3. Bartlett's Test of Sphericity was statistically significant ($p < .0005$), indicating that the data were suitable for a PCA. All items loaded on the same factor and explained 58.80% of the total variance. Visual inspection of the scree plot indicated that only one component fell above the inflection point. As only one component was extracted, the solution could not be rotated. The interpretation of the data was consistent with the findings of previous researchers, indicating that both the Active Coping and Planning subscales appear to reflect problem-focused coping.

Secondary Traumatic Stress from The Professional Quality of Life Scale

Results of the principal component analysis run on the Secondary Traumatic Stress subscale of the ProQOL yielded an overall Kaiser-Meyer-Olkin measure of .70, which would be considered on the border of “mediocre” and “middling” (Kaiser, 1974). Bartlett's Test of Sphericity was statistically significant ($p < .0005$) as well. Examination of the individual KMO measures showed that questions one and three yielded KMO measures below .05, which is considered the acceptable minimum (Kaiser, 1974). As a result, these items were removed from the analysis, resulting in an overall KMO measure of .85. All remaining items loaded on the one factor, which explained 51.04% of the variance on the STS scale. Visual inspection of the scree plot indicated that only one component fell above the inflection point. As only one component was extracted, the solution could not be rotated. Reliability of scores within the STS subscale in the current sample raised from $\alpha = .80$ to .85 after items one and three were removed.

Compassion Satisfaction from the Professional Quality of Life Scale

The PCA of the Compassion Satisfaction subscale of the Professional Quality of Life Scale (ProQOL) yielded an overall KMO measure of .81. Bartlett's Test of Sphericity was statistically significant ($p < .0005$) as well. All individual KMO measures were greater than .77, indicating adequate sampling (Kaiser, 1974). Results of the correlation matrix indicated that all variables had at least one correlation coefficient greater than 0.3. Principal component analysis results revealed two components, which explained 53.08% and 10.35% of the total variance, respectively. Visual inspection of the scree plot indicated that only one component should be retained (Cattell, 1966). As a result, the single component solution explained 53.08% of the total variance and all items were retained.

The Texas Christian University Organizational Readiness for Change: Treatment Staff Version

Lastly, results of the PCA on the Staff Cohesion scale of the TCU ORC-S also showed similar results. The overall Kaiser-Meyer-Olkin measure of sampling adequacy was .72, which is considered “middling” (Kaiser, 1974) and Bartlett's Test of Sphericity was statistically significant ($p < .0005$). All individual Kaiser-Meyer-Olkin measures were greater than .63, which is considered within the acceptable range (Kaiser, 1974). Results of the correlation matrix indicated that all variables had at least one correlation coefficient greater than 0.3. All items loaded on the same factor, which explained 54.57% of the total variance. Visual inspection of the scree plot indicated that only one component fell above the inflection point.

Relationships between the Variables

The following correlational analyses were conducted using each instrument after all adjustments noted above. More specifically, items were removed from the STS scale of the ProQOL and from the Empathy Assessment Index. Pairwise deletion was utilized to remove incomplete data from Pearson's correlational analyses. Participants who reported higher ratings of compassion satisfaction also reported higher self-reported ratings of empathy with a significant, positive association, $r = .45$. (see Table 4.3). This was considered a moderate correlation according to commonly accepted standards within the social sciences (Cohen, 1992).

Table 4. 3

Correlations between Variables

Variable	1	2	3	4	5	6
1. Staff Cohesion	—	—	—	—	—	—
2. Empathy	.29	—	—	—	—	—
3. Coping	.33	.58**	—	—	—	—
4. CS	.31	.45*	.23	—	—	—
5. STS	.05	-.32	-.32	-.27	—	—
6. Direct Trauma	.15	-.25	-.15	-.10	.37	—
7. Gender	.01	.40*	.29	.04	.12	.03

Note. * $p < .008$. ** $p < .0001$

Note. A Bonferroni adjustment was utilized to calculate a more conservative alpha.

Those who endorsed greater use of problem-focused coping techniques also showed a strong positive correlation with empathy, $r = .58$. Next, biserial correlation analyses were utilized to determine the relationship between direct trauma experiences and the remaining variables. Results indicated that direct trauma was not significantly related to

any of the other variables. A square transformation was utilized in order to complete a biserial correlation between secondary traumatic stress scores and gender, this correlation did not yield significant results.

Biserial correlation analyses were utilized to examine the relationship between gender and the remaining variables as well. As was aforementioned, when evaluating the relationship between empathy and gender, two outliers were identified via inspection of a boxplot. Results with all data points included yielded a moderate correlation that was not statistically significant ($r = .33, p = .030$). After both outliers were removed from the analysis, the strength of the correlation increased ($r = .40$) and achieved significance ($p = .008$). As such, the correlation coefficient for gender and empathy noted in Table 4.3 resulted from a biserial correlation analysis after the removal of two outliers. Results of this analysis indicated that women rated themselves as more empathetic than the male participants did. Lastly, results of a chi-square test for association between gender and experiences of direct trauma did not yield a statistically significant association $X^2(1) = .03, p = .862$.

Variance of Secondary Traumatic Stress Explained By Each of the Variables

Results of step 1 of the hierarchical regression analysis was statistically significant and indicated that a history of direct trauma exposure explained 14% of the variance in STS, with an adjusted R^2 of 12%. This demonstrated close to a medium size effect according to Cohen (1988), $F(1, 42) = 6.65, p = .013$ (see Table 4.4). Due to the presence of heteroscedasticity, gender was excluded from the regression analysis.

Table 4. 4

Summary of Hierarchical Regression Analysis for Variables Predicting Secondary Traumatic Stress

Variable	β	T	R	R^2	ΔR^2
Step 1			.370*	.137	.116
Direct Trauma	.370*	2.58			
Step 2			.516	.266	.169
Problem-Focused Coping	-.236	-1.37			
Compassion Satisfaction	-.241	-1.49			
Empathy	-.040	-.21			
Staff Cohesion	.168	1.07			

Note. $n = 44$; * $p < .05$.

In step 2, empathy, problem-focused coping, compassion satisfaction, and staff cohesion were added into the regression model. The full model with all five variables was also statistically significant, $R^2 = .27$, $F(5, 38) = 2.75$, $p = .032$, adjusted $R^2 = .169$. The addition of these four predictors led to an increase in R^2 of .129 or accounted for an additional 13% of the variance in STS. However, this increase in R^2 did not achieve significance. Results of the full model were indicative of a medium effect size (Cohen, 1988). Additionally, the individual predictors were examined further, none of which yielded significant results.

Differences in Secondary Traumatic Stress Levels Between Occupational Groups

A one-way ANOVA was conducted to determine if the amount of secondary traumatic stress symptoms experienced (STS total score) was different for the various

occupational groups who directly with clients within the residential treatment centers (see Table 4.5).

Table 4. 5

Descriptive Statistics of Secondary Traumatic Stress Ratings Amongst Each Occupational Group

Occupational Group	<i>n</i>	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Direct-Care	21	18.81	5.14	.126	-1.08
Clinical Staff	7	17.86	4.38	.034	-1.473
Educational Staff	9	21.56	3.06	.408	-.553
Other	7	19.29	7.61	.847	.860

Participants were classified into four groups: direct-care staff ($n = 21$), clinical staff ($n = 7$), education staff ($n = 9$), and other ($n = 7$). Clinical staff, which included all mental health care providers, or therapists, ($M = 17.86$, $SD = 4.38$) reported the lowest level of STS symptoms, compared to other groups, while education staff ($M = 21.56$, $SD = 3.06$) reported the highest rates of symptoms. However, the differences between these occupational groups was not statistically significant, $F(3, 40) = .818$, $p = .491$, $\eta^2 = .058$.

Summary of Findings

Overall, this exploratory analysis resulted in several key findings. Instruments were first evaluated with PCAs and redundant questions were removed from both the EAI and the STS scale of the ProQOL. Using the new reduced scales, correlational analyses were conducted between each of the variables. Findings indicated that empathy bore a significant positive association with problem-focused coping, CS, and gender. Results of the hierarchical regression analysis demonstrated that the full model, including a history of direct trauma exposure, problem-focused coping, CS, empathy, and staff

cohesion, accounted for a significant amount of the variance in STS scores. These results had a medium effect size. Gender was excluded from this analysis due to a low number of male responses. Lastly, a comparison of secondary traumatic stress symptoms across occupational groups indicated there were no significant differences.

CHAPTER V

DISCUSSION

This investigation is one of few to explore factors that may protect residential treatment staff against symptoms of secondary traumatic stress (STS). Overall, rates of STS were much lower than those found in previous research with residential treatment center staff as well as other occupational groups (e.g., Eastwood & Ecklund, 2008; Smith Hatcher et al., 2011; NCTSN, 2011; Zerach, 2013). Only 2.17% of participants in the present sample rated themselves within the high range for STS symptoms. Conversely, 47.83% of participants reported higher than average levels of compassion satisfaction.

Demographics show that 79.55% of the current sample have been working at an RTC for five years or less. Connor et al. (2003) investigated staff turnover in a residential treatment center for youth with high levels of emotional needs. The authors found staff turnover rates to be as high as 46% within a 3.5-year timeline. Direct care workers, teachers, and housekeeping staff demonstrated the highest rates of turnover compared to other occupational groups (Connor et al., 2003). It is possible that limited years of experience in the field may have contributed to the lower levels of STS seen in this sample.

Relationships between the Variables

In the course of investigating whether or not empathy, problem-focused coping, compassion satisfaction, staff cohesion, gender and/or the experience of direct trauma

were related to one another, findings indicated that higher reported experiences of empathy were positively associated with higher experiences of compassion satisfaction in the workplace. Higher experiences of empathy also bore a strong positive association with greater use of problem-focused coping skills. While previous findings on this relationship are limited, the current findings are consistent with the findings of Sun et al. (2019), who found that greater empathy was associated with more adaptive coping methods such as problem-focused coping. Empathy was also significantly related to gender. Female participants rated themselves as more empathetic than male participants. While many researchers have assumed that women are more empathetic than men, findings in the literature have been mixed. As others have suggested in the past (Gerdes et al., 2012; Segal et al., 2017), the effects of socialization may play a significant role in the presentation of empathy across genders. Women may be more likely to describe themselves as empathetic or associate empathetic characteristics or traits with themselves as the result of socialization and culture.

Did Any of the Variables Explain Experiences of Secondary Traumatic Stress?

The second research question sought to determine whether empathy, a problem-focused coping style, compassion satisfaction, and/or staff cohesion explained secondary traumatic stress symptoms in residential treatment center staff, while controlling for gender and the experience of direct trauma. After excluding gender from the analysis due to a low number of male participants, results indicated that previous direct trauma experience significantly explained higher STS scores. This was consistent with the findings of several prior researchers (e.g. Akinsulure-Smith et al., 2018; Esaki & Larkin, 2013; Hensel et al., 2015; Meyers & Cornille, 2002). Notably, 52% of the present sample

reported previous exposure to direct trauma. This finding would be difficult to compare to rates of trauma exposure in other studies due to methodological differences. Many of the previous studies utilized the full Adverse Childhood Experiences checklist while the present study utilized a single dichotomous question to assess for direct trauma exposure. Findings from these studies indicated that the majority of participants had experienced at least one ACE (Esaki & Larkin, 2013; Hiles Howard et al., 2015; Keesler, 2018; Thomas, 2016). Moreover, individuals with their own trauma history may be more likely to enter into a helping profession as an adult (Lee et al., 2017). Given the relationship between direct trauma exposure and STS symptoms, this proclivity may be detrimental employees. Existing direct trauma exposure may be indirectly contributing to greater experiences of burnout and decreased longevity in the field.

Additionally, all of the other factors investigated, which were hypothesized to serve a protective function against secondary traumatic stress, showed no significant associations with STS when evaluated independently. However, the full model, which included direct trauma, as well as all four factors, significantly explained higher STS scores. Moreover, results of the regression analysis demonstrated that the explanatory power of the model improved when all four factors were added to it. The implications of this finding will be discussed further in the conclusions section. In addition, low sample size likely played a significant role in the results of the current investigation.

Did Occupational Role Impact Rates of Secondary Traumatic Stress?

As was aforementioned, overall, reported rates of secondary traumatic stress symptoms were lower than expected. Still, average rates of symptoms varied between the groups, although these were not statistically significant differences. A relatively low

sample size may have contributed to these results. Additional research investigating differences between occupational groups that work together in a single setting is warranted at this time.

Implications and Key Findings

Empathy

Results of the present study indicated that higher experiences of empathy were significantly associated with higher use of problem-focused coping skills and greater compassion satisfaction. This link between empathy and compassion satisfaction is consistent with the findings of Wagaman et al. (2015), who speculated that greater compassion satisfaction could reduce the risk of burnout among employees. Similarly, results of the present study lend support to the findings of Anderson (2000) whose research indicated that greater use of problem-focused coping was correlated with lower levels of depersonalization. This finding suggests that employees who are more likely to engage in problem-focused coping are more likely to remain emotionally engaged with their clients and may be less likely to experience burnout.

In his seminal work on STS, Figley (1995) suggested that empathy may act as a unique vulnerability to STS. It has been suggested that an increased capacity for empathy may increase the likelihood of experiencing the client's trauma as their own (Baum, 2016; Baum et al., 2014). Woodward et al. (2005) theorized that higher levels of empathy could increase the likelihood of a person experiencing symptoms of secondary traumatic stress, although they found no evidence to support this. On the contrary, Wagaman et al.'s (2015) findings suggested that increased feelings of empathy may be protective against STS. No relationship was found between empathy and STS in the present sample.

One possible reason for these differences could relate to the low levels of secondary traumatic stress found in the present sample. These low levels of STS symptoms could potentially be the result of the number of early career professionals within the sample, although this was not dissimilar from the demographics found among participants of other similar studies (e.g. Eastwood & Ecklund, 2008). Another possible contributor to the varying results found in the present sample relate to the measures used as well as the procedure. Although Wagaman et al. (2015) utilized the same measure as the present study (the Empathy Assessment Index), they compared each individual subscale of the EAI to STS rates, rather than a total score. The authors found that two of the five subscales (self–other awareness and emotion regulation) were significantly related to STS. Another prior study also compared a total empathy score, utilizing a different instrument, and found no significant results (Woodward et al., 2005). These discrepancies between research findings could indicate that the instrument used to measure empathy, as well as the manner in which it is used, could have ultimately impacted findings.

**Are Empathy, Problem-Focused
Coping, Compassion
Satisfaction, or
Staff Cohesion
Protective?**

Results of the regression analysis showed that the all five factors together significantly explained secondary traumatic stress scores. The explanatory power of the model improved when empathy, problem-focused coping, compassion satisfaction, and staff cohesion were added to it. This may indicate that these individual and environmental factors do serve a protective role against STS when some or all of them are present

together. Moreover, results of a pilot study, investigating the same potential protective factors and their associations with STS symptoms in public school staff, yielded the same results, lending additional support to this theory (Gagliano, 2019). The study utilized purposeful and snowball sampling via email and social media to investigate the same factors in various occupational groups working in public schools. The study yielded a significantly larger sample than the current investigation and the amount of variance accounted for by the final model was comparable to that of the present study (12.9%). More specifically, the results indicated that staff cohesion in the workplace significantly explained STS scores. The lower the rates of staff cohesion reported in the workplace, the higher the rates of secondary traumatic stress were. The results of the pilot study contradicted the findings of previous researchers, Borntrager et al.'s (2012), which indicated that emotional connection with coworkers was not significantly related to STS.

While variations between sample sizes may have contributed to these disparate findings related to staff cohesion, setting may have also played a role. Staff cohesion in an residential treatment center versus a school may look different from one another. Being that residential treatment centers are open 24 hours a day, they involve a significant amount of shift work and roles may be more compartmentalized overall. For example, night staff at an RTC likely have very little interaction with other occupational groups and interactions overall are likely much more limited. As a result, implications resulting from this finding may also vary across settings. Team building and staff incentive programs at RTCs may be more effective when taking these varying experiences into account.

Limitations

Several potential limitations to this study are important to discuss. First, responses were collected via a self-report survey and convenience sampling. This may have resulted in reporting bias or social desirability response bias (Van De Mortel, 2008). Being that participants were recruited via email from their employer, some individuals may have been more interested in responding and may have possessed different traits than those who chose not to participate. In addition, the distribution of STS scores in the present sample demonstrated a restricted range. This may have also been the result of the participants who chose to respond to the survey. The large number of early career professionals in the current sample may have also contributed. Next, because this study was cross-sectional in nature, causal relationships cannot be determined based on the findings. A longitudinal study would be better suited to determine the nature of the relationship between STS and other factors over time.

Gender was excluded from the regression analysis due to an assumption violation that likely occurred as the result of an overrepresentation of females within the sample (75%). This is a common occurrence within the literature, and in fact, the present sample had a higher proportion of male respondents than many of the previous studies on secondary traumatic stress (e.g. Bride et al., 2004; Choi, 2011; Lee et al., 2018; Slattery & Goodman, 2009). However, the current sample size, overall, was relatively small and this likely resulted in the large discrepancies between variances of the male and female participant groups.

Another important limitation lies in the sample of this study. Nearly 80% of participants had been working in an RTC for five years or less. This finding was not

vastly disparate from characteristics of the target population, as indicated by the high turnover rates investigated by Connor et al. (2003) and was comparable to the sample demographics in similar studies (Eastwood & Ecklund, 2008). However, this may have impacted the findings within the present study, in that, staff who experience higher rates of STS are more likely to seek alternative employment. Conversely, staff who have been present for less than five years, may not have experienced secondary traumatic stress.

Future Directions

As a result of the exploratory nature of the present study, in addition to the relatively low sample size, there is significant need for future investigation. Overall, results of the present study suggest that empathy, CS, problem-focused coping, and staff cohesion in the workplace have some level of impact on rates of STS in direct-care providers at these residential treatment centers. Moreover, results of the pilot study (Gagliano, 2019) found that the lower the rates of staff cohesion reported in the workplace, the higher the rates of STS symptoms reported. Future research should continue to investigate the role of staff cohesion in these settings where providers encounter high rates of indirect trauma exposure. Additional clarity on this potential protective factor could yield significant implications for the importance of team building and other systems of organized staff support. With much of the current literature suggesting generic self-care practices to help reduce or prevent secondary traumatic stress (e.g., Eastwood & Ecklund, 2008; NCTSN, 2011; Newell & MacNeil, 2010; Salloum et al., 2015; Yassen, 1995), further investigation into the experiences of STS, as well as relevant methods of prevention or increasing resiliency, is of significant importance to all care-giving professionals.

Moreover, the relationship between secondary traumatic stress and empathy also warrants further investigation. While a summative conceptualization of empathy was utilized in the present study, previous researchers have broken this construct into several parts (e.g. Harrison & Westwood, 2009; Wagaman et al., 2015). Additional scrutiny of each component of empathy and its relationship to STS could result in meaningful implications for supervision and training practices of mental health professionals, as well as other direct-care providers. Mental health providers, such as therapists, receive extensive supervisory experiences throughout their training that teach self-other awareness and differentiation between the client's and the clinician's emotions. These training opportunities often involve self-reflection and discussions of transference and countertransference. How might similar training opportunities impact secondary traumatic stress in education staff or direct care staff at residential treatment centers? How might similar professional development opportunities impact STS in public school staff? Further investigation of empathy's relationship to secondary traumatic stress is a necessary area of exploration.

Additionally, no significant differences in secondary traumatic stress symptoms were found between the various occupational groups working in these RTCs. This research question was of interest because RTCs, like most other settings that care for traumatized youth, are multidisciplinary in nature. Schools also rely on this organizational structure where professionals, across disciplines, must work together to benefit their students. Given that the current findings indicate education staff are experiencing STS at rates comparable to clinicians and direct care staff, further investigation of these experiences in teachers may be warranted at this time.

Recent research has indicated that nearly half of all teachers in the United States leave their district or leave the field altogether, within the first five years (Phillip, 2015; Rumschlag, 2017). Shortages of many other occupational groups within the schools, such as school psychologists (National Association of School Psychologists, 2017), have also been ongoing for many years. Improving school climate and facilitating an increase in staff cohesion, may help to combat the extremely high attrition rates within the education system and ultimately improving student-staff relationships. Additional research on this topic is necessary to improve the educational experience for our youth. With so many organizations promoting the importance of trauma-informed schools (Chafouleas, Johnson, Overstreet, & Santos, 2016), we must also recognize the impact that this trauma exposure has on the staff.

Individuals who choose to work in residential treatment centers likely enter into the field expecting to work with highly traumatized youth. Public school teachers and other school staff often enter into the field with very different expectations. Aspiring teachers are instructed in classroom management techniques but are often limited in their exposure to behavior management skills for working with highly disruptive behaviors. Navigating the social and emotional needs of students has steadily become more and more of the educational landscape. Bearing this in mind, investigation of these phenomena in public schools is a much-needed area of exploration.

Lastly, while the target population has a higher female to male staff ratio, future studies should seek a more even gender distribution within their sample, if possible. A longitudinal study would also be better suited to investigating causal relationships between these variables. The opportunities for continued research on this important topic

are vast and could yield meaningful recommendations for improving longevity in these essential roles.

Conclusions

Secondary traumatic stress has become an important area of focus in various caregiving populations. Risk factors have often been emphasized while protective factors have received much less attention. The current study makes an important contribution to the literature as it lends support to the notion that empathy, problem-focused coping, compassion satisfaction, and staff cohesion may serve a protective function against STS. Evidence supporting the function of existing direct trauma exposure as a risk factor for STS was also present and consistent with prior research findings. Contrary to suggestions from many other researchers, no evidence was found to support the assumption that empathy is a risk factor for secondary traumatic stress. In fact, higher experiences of empathy were associated with greater problem-focused coping skills and CS.

Additionally, residential treatment center staff are at particularly high risk for experiencing STS due to the high-acuity clients they often work with, and the high level of indirect trauma exposure they experience as a result. Many of the previous studies on this topic have examined rates of STS amongst one occupational group at a time. The current study stands out in its effort to differentiate the experiences of STS between occupational groups that work together within a particular setting.

Moreover, residential treatment center staff would likely benefit from increased training in skills and tools that could increase resiliency and protect them against the negative effects of secondary traumatic stress. Given the extremely high turnover rates amongst RTC staff, as well as public school staff, this study begins to address methods of

increasing resiliency in these care-workers and thereby increasing longevity within these fields. This knowledge could be beneficial to training programs and ongoing professional development opportunities across systems that serve traumatized youth. Lastly, this insight could improve service delivery across settings, including the education system as a whole.

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APPENDIX A
RECRUITMENT EMAILS

Hello,

My name is Stacey Gagliano and I am a doctoral student at the University of Northern Colorado. I am emailing to ask if you would be willing to complete a survey about your experiences working with youth in a residential treatment center. This survey should take no more than 15 minutes of your time. The purpose of this study is to learn about parts of you and your life that may be related to signs of trauma. This happens from helping another person who has trauma and hearing about it. This type of trauma is called secondary traumatic stress (STS). You are receiving this email because your place of employment has generously agreed to help me with my research.

To participate, you must be 18 years or older and your primary role within your organization must be either direct-care staff, clinician, teacher, or paraprofessional. The survey is voluntary, and all responses will be confidential. I will not collect any personal data such as your name.

If you decide to participate in this study, you may choose to enter a raffle at the end of the survey, for a chance to win a \$50 Amazon gift card. If you are interested in participating, please click on the link for the survey and additional information: https://unco.co1.qualtrics.com/jfe/form/SV_1MtlOhAOyp9yyGN

If you have any questions, please do not hesitate to contact me at perl0648@bears.unco.edu. Thank you very much for your time.

Sincerely,
Stacey

Stacey Gagliano, NCSP
PhD Candidate, School Psychology
University of Northern Colorado

Hello,

My name is Stacey Gagliano and I am a doctoral student at the University of Northern Colorado. I am emailing to ask if you would be willing to complete a survey about your experiences working with youth in a residential treatment center. This survey should take no more than 15 minutes of your time. The purpose of this study is to better understand factors that may be associated with symptoms of secondary traumatic stress, which can result from helping someone with a history of trauma. You are receiving this email because your place of employment has generously agreed to help me with my research.

To participate, you must be 18 years or older and your primary role within your organization must be either direct-care staff, clinician, teacher, or paraprofessional. The survey is voluntary, and all responses will be confidential. No identifying information, beyond an IP address, will be connected to any of your responses.

If you decide to participate in this study, you may choose to enter a raffle upon completion of the survey, for a chance to win a \$50 Amazon gift card. If you are interested in participating, please click on the link for the survey and additional information: https://unco.co1.qualtrics.com/jfe/form/SV_1MtlOhAOyp9yyGN

If you have any questions, please do not hesitate to contact me at perl0648@bears.unco.edu. Thank you very much for your time.

Stacey Gagliano, NCSP
PhD Candidate, School Psychology
University of Northern Colorado

APPENDIX B**AUTHOR PERMISSION FOR USE OF THE EMPATHY
ASSESSMENT INDEX**

Hi Stacey,

The scale and instructions for scoring are now available in our text. It is available at <https://cup.columbia.edu/book/assessing-empathy/9780231181914>.

Hope all goes well with your research!

Cynthia Lietz
Vice Dean
[411 N. Central Ave.](#)
[UCENT Suite 750](#)
[Phoenix, AZ 85004](#)



From: Gagliano, Stacey <perl0648@bears.unco.edu>
Sent: Sunday, September 16, 2018 8:28 AM
To: Cynthia Lietz <clietz@asu.edu>
Subject: EAI for research

Hello Dr. Lietz,

I have read your article *The Empathy Assessment Index (EAI): A Confirmatory Factor Analysis of a Multidimensional Model of Empathy*, I am currently writing my dissertation and investigating which (if any) protective factors reduce the impact of secondary trauma in care workers. I wanted to email you and inquire if I might use your scale within my research. I would like to use the questions exactly as they are written, within a qualtrics survey (electronic version). Please let me know your thoughts and/or if you require any additional information.

Thank you very much for your time.

Sincerely,
Stacey

Stacey Gagliano, NCSP
PhD Student, School Psychology
University of Northern Colorado

APPENDIX C**THE PROFESSIONAL QUALITY OF LIFE SCALE
(ProQOL) Version 5 (2009)**

When you help people you have direct contact with their lives. As you may have found, your compassion for those you help can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a helper. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the last 30 days.

1 = Never | 2 = Rarely | 3 = Sometimes | 4 = Often | 5 = Very Often

1. I am happy.
2. I am preoccupied with more than one person I help.
3. I get satisfaction from being able to help people.
4. I feel connected to others.
5. I jump or am startled by unexpected sounds.
6. I feel invigorated after working with those I help.
7. I find it difficult to separate my personal life from my life as a helper.
8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I help.
9. I think that I might have been affected by the traumatic stress of those I help.
10. I feel trapped by my job as a helper.
11. Because of my helping, I have felt "on edge" about various things.
12. I like my work as a helper.
13. I feel depressed because of the traumatic experiences of the people I help.
14. I feel as though I am experiencing the trauma of someone I have helped.
15. I have beliefs that sustain me.
16. I am pleased with how I am able to keep up with helping techniques and protocols.
17. I am the person I always wanted to be.
18. My work makes me feel satisfied.
19. I feel worn out because of my work as a helper.
20. I have happy thoughts and feelings about those I help and how I could help them.
21. I feel overwhelmed because my case [work] load seems endless.
22. I believe I can make a difference through my work.
23. I avoid certain activities or situations because they remind me of frightening experiences of the people I help.
24. I am proud of what I can do to help.
25. As a result of my helping, I have intrusive, frightening thoughts.
26. I feel "bogged down" by the system.
27. I have thoughts that I am a "success" as a helper.
28. I can't recall important parts of my work with trauma victims.
29. I am a very caring person.
30. I am happy that I chose to do this work.

(Stamm, 2009)

APPENDIX D**AUTHOR PERMISSION FOR USE OF THE PROQOL 5**

Permission for Use of the ProQOL (Professional Quality of Life Scale: Compassion Satisfaction and Compassion Fatigue) www.proqol.org

Accompanied by the email to you, this document grants you permission to use for your study or project

The ProQOL (Professional Quality of Life Scale: Compassion Satisfaction and Compassion Fatigue) www.ProQOL.org

Prior to beginning your project and at the time of any publications, please verify that you are using the latest version by checking the website. All revisions are posted there. If you began project with an earlier version, please reference both to avoid confusion for readers of your work.

This permission covers non-profit, non-commercial uses and includes permission to reformat the questions into a version that is appropriate for your use. This may include computerizing the measure.

Please print the following reference or credit line in all documents that include results gathered from the use of the ProQOL.

Stamm, B. H. (2010). The ProQOL (*Professional Quality of Life Scale: Compassion Satisfaction and Compassion Fatigue*). Pocatello, ID: ProQOL.org. retrieved [date] www.proqol.org

Permission granted by
Beth Hudnall Stamm, PhD
Author, ProQOL
ProQOL.org
info@proqol.org

Help us help all of us. Please consider donating a copy of your raw data to the data bank. You can find more about the data bank and how you can donate at www.proqol.org and www.proqol.org/Donate_Data.html. Data donated to the ProQOL Data Bank allow us to advance the theory of compassion satisfaction and compassion fatigue and to improve and norm the measure itself.

RE: Request Permission to Use the ProQOL



Alyce Eaton <AEaton@CVT.ORG>

Fri 3/29/2019 1:24 PM

To: ProQol <proqol@CVT.ORG>



Permission_for_Use_of_the_Pr...

25 KB

Hello,

You are receiving this email because you requested permission to use the ProQOL, or Professional Quality of Life measure, over the last few months. (<https://proqol.org/>)

If you are using the ProQOL per the terms outlined on our website (The ProQOL measure may be freely copied as long as (a) author is credited, (b) no changes are made other than those authorized [on the site; namely, changing "helper" to the term relevant for your population, and/or putting the ProQOL in an online format], and (c) it is not sold.), then the request you sent (which we will keep on file) and the document attached here together comprise your permission to use the ProQOL. Please consider donating your de-identified baseline data to the ProQOL office if possible, as this helps us maintain the measure. Additionally, you may translate the ProQOL as it is useful for you – we also appreciate donations of translations of the ProQOL. You are also welcome to use just part of the ProQOL, as long as you cite it as such and understand that it may no longer hold its reliability and validity.

If you have other questions or specific concerns about the ProQOL, we humbly ask that you please re-send those and we will do what we can to get back to you quickly. The ProQOL office is unfortunately currently operating at extremely limited capacity, so we apologize for this and for the delay in responding to your initial queries.

Best wishes,

Alyce Eaton
Research Assistant
Skype: alyce.eaton.cvt

The Center for Victims of Torture;
[2356 University Ave W., Suite 430 / St. Paul, MN 55114](https://www.cvt.org)
www.cvt.org

CVT: Restoring the Dignity of the Human Spirit

Notice: This email and any files transmitted with it are confidential, may be entitled to medical/legal privilege and are intended solely for the use of the individual or entity to whom they are addressed. If you have received this email in error please notify the system manager (and/or the sender). Finally, the recipient should check this email and any attachments for the presence of viruses. CVT accepts no liability for any damage caused by any virus transmitted by this email.

APPENDIX E

**THE COPING ORIENTATION TO PROBLEMS
EXPERIENCED INVENTORY
(COPE)**

(Active Coping and Planning Subscales Only)

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel, when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items by blackening one number on your answer sheet for each, using the response choices listed just below. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event.

- 1 = I usually don't do this at all
- 2 = I usually do this a little bit
- 3 = I usually do this a medium amount
- 4 = I usually do this a lot

1. I concentrate my efforts on doing something about it.
2. I make a plan of action.
3. I take additional action to try to get rid of the problem.
4. I try to come up with a strategy about what to do.
5. I think about how I might best handle the problem.
6. I take direct action to get around the problem.
7. I think hard about what steps to take.
8. I do what has to be done, one step at a time.

(Carver, Scheier, & Weintraub, 1989)

APPENDIX F

ORGANIZATIONAL READINESS FOR CHANGE:
TREATMENT STAFF VERSION
(TCU ORC-S)

(Staff Cohesion Subscale Only)

Cohesion

- 28. Staff here all get along very well.
- 40. There is too much friction among staff members. ®
- 45. The staff here always work together as a team.
- 55. Staff here are always quick to help one another when needed.
- 61. Mutual trust and cooperation among staff in this program are strong.
- 91. Some staff here do not do their fair share of work. ®

TCU FORMS/W/ORC-S (5/03)

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APPENDIX G
DEMOGRAPHICS

1. What is your gender? [open text response box]
2. How many years have you worked at a residential treatment center (including your current position)? [open text response box]
3. Direct trauma can be described as an emotional reaction (e.g. fear or helplessness) to a terrible event such as a natural or man-made disaster, threatened or actual physical assault, threatened or actual sexual violence, severe injury due to an accident, among many other experiences. These experiences can result in short-term and/or long-term symptoms.
 - a. Would you describe yourself as having a history of direct trauma?
 - i. Yes
 - ii. No
4. What is your current highest educational degree received?
 - a. High school diploma
 - b. Associate's degree
 - c. Bachelor's degree
 - d. Master's degree
 - e. Professional degree (above Master's level)
 - f. Doctoral degree
5. What is your primary role in your current job (where you spend the majority of your working hours)?
 - a. Direct-care staff
 - b. Clinical staff (i.e. therapist)
 - c. Educational staff (i.e. teacher or paraprofessional)

APPENDIX H
INSTITUTIONAL REVIEW BOARD APPROVAL LETTERS



Institutional Review Board

DATE: January 22, 2019

TO: Stacey Gagliano, NCSP

FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1362986-1] Protective Factors for Secondary Traumatic Stress in Residential Treatment Staff

SUBMISSION TYPE: New Project

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS

DECISION DATE: January 19, 2019

EXPIRATION DATE: January 19, 2023

Thank you for your submission of New Project materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

Thank you for a clear and thorough IRB application for this study. Please update the Office of Research contact to Nicole Morse (and remove Sherry May's name as she retired in July 2018) in your informed consent form. Your protocols and materials will then be verified/approved exempt. Be sure to use the revised consent form in your participant recruitment and data collection.

Best wishes with your research and don't hesitate to contact me with any IRB-related questions or concerns.

Sincerely,

Dr. Megan Stellino, UNC IRB Co-Chair

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or nicole.morse@unco.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.



Institutional Review Board

DATE: July 12, 2019

TO: Stacey Gagliano, NCSP

FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1362986-3] Protective Factors for Secondary Traumatic Stress in Residential Treatment Staff

SUBMISSION TYPE: Amendment/Modification

ACTION: MODIFICATION APPROVED/VERIFICATION OF EXEMPT STATUS

DECISION DATE: July 12, 2019

EXPIRATION DATE: January 19, 2023

Thank you for your submission of Amendment/Modification materials for this project. The University of Northern Colorado (UNCO) IRB approves this project modification and verifies its continued status as EXEMPT according to federal IRB regulations.

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or nicole.morse@unco.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.

APPENDIX I
INFORMED CONSENT



CONSENT FORM FOR HUMAN PARTICIPANTS IN RESEARCH

Project Title: Protective Factors for Secondary Traumatic Stress in Residential Treatment Staff

Researcher: Stacey Gagliano, NCSP, School Psychology

Contact Information: (908) 612-1326; perl0648@bears.unco.edu

Research Advisor: David Hulac, PhD

Contact Information: (970) 351-1640; David.hulac@unco.edu

Purpose and Description: The primary purpose of this study is to better understand various factors that may be associated with symptoms of secondary traumatic stress (STS). STS results from indirect exposure to the trauma of another as a result of helping or wanting to help that individual. In order to better understand different experiences of STS, I plan to ask a wide range of questions about your attitudes and experiences. I will also ask several demographic questions such as your occupational role and gender. All questions will be multiple choice.

Risks of participation are minimal: some individuals may feel some emotional discomfort when answering questions about any symptoms they may be experiencing. The costs are minimal: this survey will take no more than 15 minutes of your time. **Benefits:** your participation in this survey may help others who also work with youth, but also, when the survey is complete you may elect to enter for a chance to win a \$50 Amazon gift card. You are under no obligation to participate in this study.

The researcher will work to maintain participant confidentiality. No identifying information will be collected during this survey, such as names or contact information. If a participant chooses to enter to win the raffle at the end of the survey, they will be directed to a separate survey where they can enter in their contact information. That information will not be connected in any way to their responses to this survey and that contact information will be deleted after the winner is selected.

Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in a loss of benefits to which you are otherwise entitled. Having read the above, please sign below if you would like to participate in this research. If you have any concerns about your selection or treatment as a research

participant, please contact Nicole Morse, Office of Research, Kepner Hall, University of Northern Colorado, Greeley, CO 80639; 970-351-1910.

By clicking the button below, you acknowledge that your participation in the study is voluntary and you are 18 years of age. Please print a copy of this form for your records. Thank you very much for your assistance.

Please note that this survey will be best displayed on a laptop or desktop computer. Some features may be less compatible for use on a mobile device.

I consent, begin the study.

I do NOT consent and do not wish to participate.

APPENDIX J
DEBRIEFING FORM

Thank you for participating in my study. I am interested in learning more about internal and external factors that may protect care providers against the impacts of secondary traumatic stress. Gaining a better understanding of STS can not only aid the individual who is directly experiencing symptoms, but it can also improve care for the clients they serve. I would like to thank you very much for your participation in this survey and your willingness to take the time to contribute to my research.

Results of this assessment are for research purposes only and if you believe that you may be suffering from or affected by secondary traumatic stress please consider seeking professional help. Below, please find some resources that may assist you.

For more information on secondary traumatic stress:

- The National Child Traumatic Stress Network provides useful information, lists of books and additional resources that can be helpful:
https://www.nctsn.org/sites/default/files/resources/fact-sheet/secondary_traumatic_stress_child_serving_professionals.pdf
- Another fact sheet for professionals can be located at:
 - Perry, B. (2014). The cost of caring: Secondary traumatic stress and the impact of working with high-risk children and families [Professional Series]. Retrieved from: https://childtrauma.org/wp-content/uploads/2014/01/Cost_of_Caring_Secondary_Traumatic_Stress_Perry_s.pdf

To find a mental health professional, contact your insurance provider and/or please consider the following resources:

- https://locator.apa.org/?_ga=2.128262410.760149704.1542561946-1279309427.1479190715
- <https://www.nbcc.org/Search/CounselorFind>
- <https://www.networktherapy.com>

The following website also provides some additional information about how to choose a psychologist: <https://www.apa.org/helpcenter/choose-therapist.aspx>

Thank you for your participation and please feel free to print this form for your records.

APPENDIX K
LIST OF ACRONYMS

List of Acronyms

ACEs: Adverse childhood experiences

COPE: The Coping Orientation to Problems Experienced Inventory

CS: Compassion satisfaction

EAI: Empathy Assessment Index

KMO: Kaiser-Meyer-Olkin measure of sampling adequacy

NCTSN: The National Child Traumatic Stress Network

PCA: Principal component analyses

ProQOL: The Professional Quality of Life Scale

PTSD: Posttraumatic stress disorder

RTC: Residential treatment center

STS: Secondary traumatic stress

TCU ORC-S: The Texas Christian University Organizational Readiness for
Change: Treatment Staff Version